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PhD

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**Weaving paradoxes:
materiality, innovation and
personhood in Guatemalan
Maya Clothing**

by Pia Mira Marika Tohver

**Thesis submitted in partial fulfilment of
the degree of Doctor of Philosophy
in the Department of Anthropology at UCL
University of London 2006**

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Abstract

This thesis discusses how the materiality of weaving and wearing cloth parallels the construction of personhood among the Maya in Guatemala. Maya clothing is renowned for bright colours that accentuate personhood and community-bound origin. Colour is highly affective in the construction of Maya self-aesthetics due to its connotation with ancestral knowledge and positive bodily states. The potency of colour has allowed for political economy to be invested in clothing, and at present clothes define the Maya body politic. Efficacy of Maya cloth is revealed in the process of weaving, during which the selection of colours and thread types affect the quality of the finished cloth. Weavers' skills are dependent on the relationship of the body with the loom, which is considered inseparable, for the ability to weave good quality cloth.

For Maya women, weaving provides the time and space during which both cloth and personhood is created and maintained. Weaving is an occasion for the exchange of information pertaining to the making of cloth as well as dealing with aspects of womanhood. The handling of looms, threads and patterns provides an axis for the discussion of topics that parallel Maya girls' initiation to adulthood. Weaving as cultural performance encompasses the gathering of women and enables weavers to connect with women within and outside their kin group.

The increased flow of tourism to Guatemala has expanded the popularity of Maya cloth. Weavers have started to change the visual form of Maya cloth by introducing new designs, colours and patterns to comply with the tourist market. This allows Maya women to adhere to cultural knowledge and simultaneously to transform it. Stealing and dealing in weaving skills are a part of getting ahead in the weaving business. Doing this, Maya women have attained a powerful economic presence in the local and global world through the manipulation of cultural knowledge.

CONTENTS

Abstract	2
Contents	3
Acknowledgements	7
List of figures	8
Glossary	10
INTRODUCTION	
Cloth among the Maya	13
FIELDWORK LOCATION	
Guate, Guate!	16
Tensions and disruptions	17
Cloth and Maya revitalization	19
Thesis layout	22
Illustration	24
1	THEORY AND METHOD
Weaving, materiality and personhood	25
Cloth-making and womanhood	28
Skill, gestures and weaving	29
Cloth, body and gender	30
Innovation	33
METHODOLOGY	
Weaving the field	36
THE WEAVERS	
Lucia	39
Isabel	40
Ana	41
Juana	41
Eva	42
Rosa	43
2	CLOTH, COLOURS AND MAYA BODY POLITIC:
MATERIALITY OF PERSONHOOD	
Maya cloth and colour	44
Feathers, stones and shining threads	45
Colonialism and new materials	46
Covering the skin: formation of body politic	48
CLOTH, COLOUR AND VALUE	
“Our cloth, our colours”	51

	Ancestors, souls and <i>poder</i>	52
	Weavers and maternal ancestors	55
	Binding the threads: making the skin	57
	TOWARDS BRIGHTNESS: COLOURS, POTENCY AND MATERIALS	
	White and brown	60
	Red, fluids and excessive heat	62
	Metallics	64
	Black, death and dark light	64
	Blue, green, yellow	65
	CLOTHES, COLOURS AND THE INDIVIDUAL	
	Strengthening the skin: cloth and food	66
	Binding the skin	69
	Unbinding the skin: pale, dark and dull	71
	Daily protection	74
	Attractiveness: fertility and sexuality	76
	Maturation and marriage	78
	Elderly colours	80
	CONTESTED COLOURS	
	Too bright: ambivalence of Maya colours	81
	Colour exposure: selective dress	83
	Conclusion	85
	Illustrations	88
3	ETHNOGRAPHY OF SKILL: LOOMS, THREADS AND BODY	
	Maya women and weaving skills	93
	WEAVING STAGES	
	Materiality of learning	96
	Tactile, visual threads	98
	Winding and warping rhythms	100
	Loom and body-artefact	101
	"Seeing" threads	103
	Knowing patterns	105
	Delegation: bodkins, brocade sticks, colour	106
	Threads, friends and foes	108
	Efficacy of cloth: skills, tools, and materiality	110
	Weaving skills and loom innovation	116
	Conclusion	119
	Illustrations	122
4	PATTERNS, SYMMETRY AND NUMBERS: MATERIALITY OF RHYTHM	
	<i>El ritmo</i> and the ontology of numbers	133
	Pairs, threads and social reproduction	138

	PATTERNS, COUNTING AND PERSONHOOD	140
	Lucia and warp based patterns	141
	Isabel and double-faced patterns	143
	Ana and <i>espaditas</i>	145
	Juana and two-faced patterns	147
	Rosa and complex patterns	149
	Arithmetic and control: pairs, odd and even numbers	150
	Colour changes and symmetry effect	151
	<i>Los ancianos</i> versus modern patterns	154
	Rhythm, movement and optical illusions	157
	Movement: tame versus wild symmetry	159
	Vertical patterns and empty spaces	160
	Symmetry breaking	162
	Reverse symmetry	164
	Secret rhythms	166
	Conclusion	168
	Illustrations	170
5	WEAVING AS CULTURAL PERFORMANCE:	
	CLOTH, TRANSITION AND FEMALE IDENTITY	
	Weaving and performance	176
	Silent women, spoken cloth	178
	Humouring the weave	180
	Men's parts as women's domain	182
	Initiation into womanhood	184
	Fertility and seduction	186
	Fragile cloth	187
	Loss and love	189
	Foreign connections	192
	Fabrications of reputations	194
	Crossing the border	195
	Conclusion	198
6	MARKETS, CLOTH AND ECONOMICS: MATERIALITY OF INNOVATION	
	Transforming cloth	201
	Isabel and commissions	203
	Ana and replication	205
	Rosa and copying	207
	Juana, co-operatives and multiple strategies	209
	Old cloth, new bags	212
	Selling strategies	213
	Cloth networks: the Panajachel trousers	216

	Dolls, cloth and baby wraps	217
	Innovating cloth and selves	217
	Conclusion	222
	Illustrations	225
7	CONCLUSION	
	Cloth, colour and personhood	231
	Weaving, the body and <i>el ritmo</i>	233
	Womanhood, weaving and performance	234
	Innovation, tourism and personhood	235
	REFERENCES	238

Acknowledgements

I wish to thank my supervisor Dr Susanne Kuechler for providing valuable support and insight during the writing of this thesis. Many thanks to Dr Nicholas J. Saunders, Dr Nanneke Redclift, the Writing-up group at UCL, Dr Martha J. Macri, Dr Chantal Huckert, Miguel and Juan Leon-Cortez for useful suggestions. Thanks to my parents Sirkka and Eero Tohver, my brother Mika Tohver, Sam Whitehead, Rosie Speno, Shirley Gray, Annika Hulander, Jorun Moden, Oksana Yurchyshyn-Smith, Nicholas Smith and Evelyne Berne for unforgettable support during the fieldwork and the writing-up years.

I am grateful for receiving a grant from the AHRB, a Summer Fellowship from the Pre-Columbian Studies Department at Dumbarton Oaks, and a UCL Graduate School Project grant to conduct this research.

I would like to express my greatest thanks to the Maya women in Guatemala who allowed me into their homes to learn about weaving and their lives.

This thesis is dedicated to the spirit of 7 *Ak'bal*.

FIGURES

1.1 Lady Xoc wearing an intricately patterned <i>huipil</i>	24
2.1 Cloth map of Guatemala	88
2.2 Colours that can be combined with each other	58
2.3 Colours that can not be combined with each other	59
2.4 Nahualla <i>huipil</i>	89
2.5 Santa Catarina Palopo <i>huipil</i> with red foundation	89
2.6 Foundation colour is changing	89
2.7 Foundation has changed to blue	90
2.8 Chajul <i>huipil</i> with red foundation	90
2.9 Foundation has changed to green	90
2.10 Glitter scarf from Santa Catarina Palopo	91
2.11 Almolonga belt	91
2.12 Detail of bird pattern made with <i>bricho</i> and rayon	91
2.13 Detail of skirt with the cardinal cross	92
3.1 Natural white cotton wound into ball	122
3.2 Cotton in bright colours	122
3.3 Cotton dyed with natural dyes	122
3.4 Winding thread with help of a friend	123
3.5 Warping directly from a reel to the warping board	123
3.6 Warping with right hand	124
3.7 The warped yarns before they are taken off	124
3.8 The backstrap loom	125
3.9 The bodkin	126
3.10 The bodkin is used to pick up yarns	127
3.11 Sectioning the warp threads with a brocade stick	127
3.12 Inserting the first row of red yarn	128
3.13 The pattern begins to take shape	128
3.14 Bird pattern, detail from Nahualla cloth	129
3.15 Horizontal distance between rows of patterns	129
3.16 Scarves showing preferred colour sequences	130
3.17 <i>Gukumatz</i> pattern with bright/strong colours	130
3.18 Colour combinations in cloth	131
3.19 Colour combinations in cloth	131
3.20 Related hues	132
3.21 Red silk brocaded on pink foundation	132
3.22 Natural white silk brocade on white foundation	132
4.1 Schematics of the Maya calendar system	170
4.2 The warp count for the first cloth I wove with Lucia	141

4.3 Numbers and colour count of the <i>borde</i> pattern	142
4.4 Pattern count and colours of the arrow pattern	143
4.5 Pattern count and colour interaction of star pattern	144
4.6 Pattern count and colour interaction of <i>pepita</i> pattern	146
4.7 Pattern count and colour of the <i>flora</i> pattern	147
4.8 <i>Gukumatz</i> pattern from Rosa's collection	170
4.9 <i>Gukumatz</i> pattern modified for my cloth	170
4.10 Weavers and their preference of pattern technique	171
4.11 Colour change in patterns with Juana	151
4.12 Colour change in patterns with Ana	152
4.13 Colour change in patterns with Isabel	153
4.14 Rhomboid/diamond pattern with added curls	172
4.15 Rosa pattern based on the rhomboid	172
4.16 Turtle pattern based on the rhomboid	172
4.17 Dog pattern woven under supervision of Juana	172
4.18 Pattern count and colour interaction of <i>culebra</i>	157
4.19 Pattern count and colour interaction of <i>templo</i>	158
4.20 <i>Tigre</i> pattern front and reverse image	173
4.21 Broken neck turkey	173
4.22 Animals raised vertically from the surface of the cloth	174
4.23 Front and reverse of <i>flora</i> pattern	174
4.24 Cat pattern, front and reverse image	174
4.25 Front and reverse of eagle pattern	175
4.26 Star pattern, front and back images	175
6.1 Old style huipil	225
6.2 Modern <i>huipil</i> with bright colours and patterns	225
6.3 Market scene, Antigua, Guatemala	226
6.4 Appliqué scenery shows new ways of thinking	226
6.5 Quilt made from <i>huipiles</i>	227
6.6 Backstrap woven cloth made into bag with pom-poms	227
6.7 Cut-offs from old and unwanted Maya cloth	228
6.8 Promoting Maya women and cloth	228
6.9 Sell, sell, sell. Tourist inundated with cloth sellers	229
6.10 Weaving scene from Codex Madrid	229
6.11 Stall of brown cotton products, aimed at tourists	230
6.12 Natural brown cotton and lavender dyed thread	230
6.13 Pillow cover made from brown cotton	230

Glossary

<i>Backstrap loom</i>	- a weaving implement made from a set of wooden rods, held together by warp threads. The loom is tensioned by attaching one end of the loom to the weaver's body with a backstrap, and the other to a fixed point, such as a post, tree or a beam
<i>Batten</i>	- a tool used for opening the <i>shed</i> and for beating down the <i>weft</i> thread with
<i>Bodkin</i>	- a tool for picking up the supplementary weft threads when weaving patterns
<i>Bricho (m., Sp.)</i>	- bright metallic thread used by Maya weavers to emphasize sheen in cloth
<i>Brocading, brocado (m., Sp.)</i>	- a technique of producing patterns as the weaving proceeds with <i>supplementary weft</i> . In contrast to embroidery, <i>bordado (m., Sp.)</i> in which the patterns are inserted afterwards
<i>Corte (m., Sp.)</i>	- skirt
<i>Cloth bar</i>	- a wooden bar which holds the loom together at the top and bottom end of the warp threads
<i>Double-faced patterns</i>	- patterns which exhibit a mirror image of the front design on the reverse side of the cloth
<i>Espadita (f., Sp.)</i>	- brocade stick which is used for picking up warp threads when making patterns. One or several <i>espaditas</i> can be inserted into the warps to making patterns
<i>Faja (f., Sp.)</i>	- belt
<i>Heddle</i>	- a looped thread which is inserted into the warps to separate warp threads into front and back sections, this enables the creation of a <i>shed</i> . In the backstrap loom, the heddle is attached to a rod

<i>Hilo (m., Sp.)</i>	- <i>thread</i> or <i>yarn</i>
<i>Huipil (Nahuatl)</i>	- the name commonly used for Maya women's blouse
<i>Poder (m., Sp.)</i>	- power, a term used to describe strong people, as opposed to <i>flojo</i> or <i>debil</i> , weak people
<i>Pulgas (f., Sp.)</i>	- selected sections of warp threads which helps the weaver to arrange the symmetrical placement of patterns
<i>Ritmo (m., Sp.)</i>	- rhythm, a term that Maya weavers use when referring to <i>symmetry</i> patterns as well as to the warping of threads and to the rhythm of the weaving process itself
<i>Shed</i>	- the opening or horizontal space which is created from the separation warp threads into front and back sections. The <i>shuttle</i> is pulled through this to create weave
<i>Shuttle</i>	- a weaving rod onto which <i>weft</i> thread is wound and which is pulled through the <i>shed</i> as the weaving proceeds to create weave
<i>Single-faced patterns</i>	- patterns that are only visible on one side of the cloth because the weft threads are sealed within the warps
<i>Skein</i>	- a bundle of thread/yarn
<i>Supplementary weft</i>	- additional weft thread used for brocading patterns. Different from <i>weft</i>
<i>Symmetry</i>	- a term used to explain the equal gradation in size of an image
<i>Thread</i>	- see <i>yarn</i> . I use the term thread in this thesis instead of yarn as the Maya weavers use of <i>hilo</i> is more applicable to thread, following Emery's classification of thread in reference to the specific use

of yarn as warp and weft threads (Emery 1966:12-13, 55).

<i>Two-faced patterns</i>	- patterns in which the design on the reverse side of cloth is an inverted, negative image of the front
<i>Warping</i>	- the act of putting the warp threads on a warping board
<i>Warp-faced patterns</i>	- patterns which are constructed from different coloured vertical threads. They can be combined with brocade patterns
<i>Warps</i>	- the vertical threads of a loom
<i>Weave</i>	- a verb to describe the act of weaving and also a noun to describe the structure of cloth
<i>Weft</i>	- the horizontal threads that interlace with weft and are inserted into the warps as the weaving proceeds. Different from <i>supplementary weft</i>
<i>Yarn</i>	- a long continuous length of interlocked fibres and can be made from synthetic or natural fibres. Very thin yarn is referred to as thread. Yarns are made up of any number of plys, each ply being a single thread. When these threads are twisted (plied) together, they make the final yarn.

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Introduction

Cloth among the Maya

This thesis is based on a study of weaving among Guatemalan Maya women and aims to examine how the materiality of cloth constructs personhood in the making, wearing and selling of cloth. Maya clothing is renowned for bright colours that accentuate personhood, and throughout Guatemala, towns and villages exhibit specific designs of dress, which have been recorded in several studies (Asturias de Barrios 1985, Asturias de Barrios et al. 1989, Blum-Schevill 1989, de Barrios 1983, Hendrickson 1991, 1995, 1997, Kellman 1991, Mayen de Castellanos 1986, Miralbes de Polanco & Mayen 1991, Peren 1999, Randall & Shook 1993). Clothing, together with linguistics, social and religious customs are noted to define Maya ethnicity and identity (Hendrickson 2002:99-100). Eicher argues that cloth is a distinct marker for ethnicity (1995). She points out three important areas in which cloth operates and defines ethnicity, all of which can be applied to Maya cloth: the creation of national identities through the appropriation of peasant styles; the role of dress in the struggle for national identity; and the commodification of cloth as tourist art.

That clothing has an affinity with being a Maya person is stressed by Hendrickson (1995:193) in her invaluable study of the lifecycle of clothing in the Maya community of Tecpan, Guatemala. Hendrickson's study provides insight to how Maya personhood is formed through the making and wearing of cloth, and she begins to address the material qualities of clothing. This thesis will expand her research by examining the close association of cloth and clothing with Maya identity by discussing how the material qualities of cloth, the colours and fibres, are associated with personhood, on an individual and a group basis.

I use the terms cloth and clothing interchangeably when speaking about cloth woven by the Maya. This is because Maya cloth can be a separate, stand-alone item in the shape of wall hangings, tablecloths or bags, but it can also be folded and wrapped on the body and used as an item of clothing. The term dress is used to a lesser extent to mean bodily covering as employed by Tranberg Hansen (2004:371). The terms personhood and self are used to mean human beings who are at the centre of their own experience, which is subjective and influenced by the society as a whole (Wolputte 2004). When discussing community-bound and community-specific cloth/clothing I imply that the clothes originate from specific Maya villages and towns. To belong to a community

means to be part of a reference group which gives a context for self evaluation (Rubel 1977). The term Maya itself means that I speak of an ethnic group which shares a common biological descent, history and culture (Wimmer 2000:53). For the Maya it is important to be born into a community and it is necessary thereafter to act in a specific way to be able to live and stay in a community (Schwartz 1990:220-224, Fischer 2001:167-173). The formation of Maya personhood is linked to living in a community and following community-bound rules, one of which is the wearing of Maya dress.

Cloth has been instrumental in shaping Maya personhood for at least two thousand years. Pre-Columbian codices illustrate Maya women warping threads and weaving patterns, and these may depict weaving almanacs that charted a favourable time for weaving (Jones & Jones 1997). Loom parts, such as spindle whorls, brocade sticks and bodkins, have been recovered in pre-Columbian house and temple compounds, and in burials (Hendon 1992). Their presence indicates a female specialisation in weaving production, and weaving may have been an activity in which high-ranking women engaged (Ashmore 2002:241-243). Cloth was worn by the Maya elite to show status, and artworks (fig 1.1) depict intricate dress styles of both male and female rulers (Miller 1975, 1986, Freidel & Schele 1990, Prouskoriakoff 1961, Schele & Miller 1986, Tate 1992, Taylor 1992). Maya clothing fashion can be traced across sites (Taylor 1984) and the evolution of pre-Columbian dress shows that clothing was an important material in the construction of self (Asturias de Barrios & Fernandez Garcia 1992, Miralbes de Polanco & Knoke de Arathoon 2003: 50-51, fig 2.3, Schmidt de Delgado 1963). Cloth was also used in trade and as tribute in consolidating processes between Maya kingdoms as seen on scenes depicted on ceramic artefacts (Reents-Budet 1994: plates 3.21, 6.25).

With the conquest of Guatemala, new materials were continuously introduced by the ruling Spaniards and some of these affected the look of cloth (Arriola de Geng 1991, Bauer 2001, Miralbes de Polanco & Knoke de Arathoon 2003). The most instrumental changes in cloth production were the introduction of the treadle- or foot-loom and sheep. Foot-looms were installed by the Spanish elite into *obrajes*, textile factories, and indigenous men and women were forced into these factories to weave cloth for tribute (Salvucci 1987). The foot loom enabled the faster weaving of cloth in large quantities, and it has remained in use mainly by men in Guatemala. The introduction of sheep provided wool for cloth making; wool was previously unknown to Central America. This was quickly incorporated into hand-weaving, and in contemporary Maya dress, wool functions as an important material in men's clothing. During colonial times, clothing evolved into the town or community-bound clothing styles visible today (Morrissey 1983).

Maya cloth attracts world-wide buyers to Guatemala and Mexico, where daily and weekly markets, craft centres and shops offer good quality cloth. The prices of cloth in the rural areas are relatively low, and rise to very high prices in the urban areas. The most collected Maya clothing item is the woman's blouse, the *huipil*, after the Nahuatl *huipilli*, which has become a term used in academic studies of Maya cloth. Most Maya languages have their own name for the *huipil*, e.g. *p'ot* in *K'akchikel*. The *huipil* is usually woven on the backstrap loom in bright colours with intricate patterning across the chest and shoulders to denote community-bound identity. Within each community, there is personal modification of *huipiles* as the weavers prefer to innovate. In the 1970s Maya cloth influenced western designs (Delgado Pang 1977). The *huipil* was even re-designed as a sweater with a zip by the designer David Ordonez, and patterns from Maya cloth appeared in *Vogue* as collectors items (Lambert 1977: fig 5).

Because of the collectable nature of Maya cloth, many studies are published as art monographs, often in association with exhibitions held at major museums in the US, UK and Europe (Altman & West 1992, Hecht 2001, Holsbeke & Montoya 2003, Blum Schevill 1993, Start 1948, 1948a). Collections of Maya cloth in western museums reach back to 1899, when the British explorer Alfred Maudslay brought back a collection which is now held at the V & A (Deuss 1994). Since then, numerous collections of Maya cloth have been built up in western museums and notable collections are held at the Fowler Museum of Cultural History at UCLA and the Lowie Museum of Anthropology at Berkley. The most extensive collection of Maya cloth is held at *Ixchel: Museo del Traje Indigena* in Guatemala City which houses cloth from each Maya village.

Some collectors only desire old-style *huipiles*, e.g. those woven in natural white cotton with blue and red patterns. The demand of buying authentic Maya cloth is so high that in some areas cloth is made antique-looking to please the buyer (Berlo 1991:455, Morris 1991). Maya textiles are fetishized through their connection with the Pre-Columbian past and are therefore attractive to the Western world as authentic materials of identity in the global world market, where one can "buy a piece of the past." Even if Maya cloth is commodified, its magical property, or aura, is not diminished (Benjamin 1973). Instead cloth regenerates itself by re-production, to become the currently most desired item in Guatemala.

FIELDWORK LOCATION

Guate, Guate! ¹

Aldous Huxley wrote in his *Beyond the Mexique Bay* (1934) that Lake Atitlan in the western highlands of Guatemala ² is the most beautiful lake in the world. Expatriate American and European hippies living by the lake describe it as a vortex of energy, and that it is possible to regain energy from the pink and golden sunsets reflected on the surface of the water. The Maya living by Lake Atitlan tell stories of supernatural lights flashing on the surface, and of monsters living in the deep waters. The mountains in the western highlands of Guatemala are considered by the Maya to be inhabited by otherworldly creatures, or earth lords, some of them living inside the peaks of the *Cuchumatanes* and the Sierra Madre ranges, running from the west to the east. Equally enigmatic are the creatures living inside one of the thirty-three volcanoes of the Sierra Madre range, the tallest being Tajumulco in the western highlands. The western highlands of Guatemala contains the richest diversity of Maya inhabitants who live in villages and towns across and in between the mountain ranges.

In the northern lowlands, the area called the Peten, the towns and villages are concentrated around Lake Peten which is associated with local mythology. The lowlands is covered by a tropical rainforest which hides thousands of yet unnamed and undiscovered archaeological sites that are guarded by the Maya who use them for ancestral ceremonies. The view from the second tallest temple at the world famous site of Tikal, the 64 m tall *Templo IV* (Temple 4) offers a breathtaking view over the rainforest canopy, and was famously filmed in *Star Wars III: Return of the Jedi*. The rainforest provides the habitat for a multitude of flora and fauna, including several species of orchids, colourful birds such as the macaw and the toucan, the elusive jaguar, the tapir, the howler and spider monkey, and the feared poisonous, aggressive snake fer-de-lance or as the locals call it *barba amarillo*, yellow beard (Janson 2001, Schlesinger 2002).

¹ When standing at a bus stop anywhere in Guatemala a bus will eventually pass by, and young men who hang off the old US school buses will shout "Guate, Guate!" This explains that the bus will terminate in Guatemala City. After spending a few months in Guatemala this shouting will stick in your mind.

² Guatemala covers an area of 108,889 sq. km, with a population of 12.3 million in 2003. Guatemala borders Mexico to the north, Belize to the east, and El Salvador and Honduras to the south (n.a 2006:534).

The Pacific coast offers black basalt volcanic sand beaches where tall surfers' waves crash onto the shore, and the undeveloped stretches of beach offer a solitude for tourists, ladinos and the Maya during the Guatemalan holidays. Whereas the Caribbean coastal towns offer a mixture of lush jungle-covered beaches and calmer waters and are a port for travel to Belize and Honduras. It is here that the majority of Guatemala's Garifuna, people of Caribbean black and Indian descent, lives together with Maya *K'ekchi* and European and American expatriates.

Temperatures and environment vary with elevations and contribute to the diversity of flora and fauna (Shea 2001:1-21). The high plateau in the centre of Guatemala is temperate in climate and experiences cool nights and warm days all year around. The tropical lowlands have hot days and nights, and a high humidity. Guatemala has two seasons: the dry season, *verano* (summer), extends from October to April, and the wet season, *invierno* (winter), runs from May to September. During the transition from the wet to the dry season, the Caribbean coast is extremely susceptible to hurricanes and other tropical storms. Because of its position on the tectonic plates, Guatemala is also prone to natural hazards of volcanic activity and violent earthquakes, which have in the past destroyed small cities on an average twice every century. In 1541, Guatemala's first colonial capital, Ciudad Vieja, was ruined by floods and an earthquake. In 1543, Antigua became the site for the second capital, but two earthquakes destroyed it in 1773. Finally, in 1776, Guatemala City became the location for the still standing capital (Shea 2001:3).

Tensions and disruption

The Spanish conquest of Guatemala began in 1524-27 when Pedro de Alvarado was sent to Guatemala by Hernan Cortes to defeat the indigenous Maya rulers (Alvarado 1924). Though it took the Spaniards until 1697 to win the battle over the *Itza* Maya who lived in the northern lowland rainforest (Jones 1998:3). During colonial times, the ruling Spanish elite imposed new laws, which affected the stability of Maya communities. The Spaniards reorganised land ownership and founded new villages and towns across Guatemala where the Maya population was resettled (Lovell 1988:30). This was done with the attempt to Christianise the Maya and also to create a centralised pool for labor. New diseases decimated the Maya population as there was no, or little, resistance to European diseases (Lovell 1988:28-30). However, the north and western areas of Guatemala were deemed cold and infertile and were not regarded as favourable by the Spaniards as the south-eastern regions (Lovell 1988:31). Thus

it is the north-western areas which have until today retained a higher degree of Maya autonomy.

In 1821 a declaration of independence was drafted in Guatemala City, but Mexico invaded and ruled until 1823 and Guatemala became fully independent in 1839 (n.a 2006: 534). Today, Guatemala is a constitutional democratic republic, but a Spanish-speaking ladino elite dominates the political system.³ The President is elected by universal suffrage for a single term of four years and Oscar Berger, who represents a centre-right coalition of parties took office on 15 January 2004. However, there has been a string of more or less undemocratic governments in Guatemala, almost all of which employed laws which have not been favourable to the Maya population (Grandin 2000). In 1951, Jacobo Arbenz was elected for president and started a land reform which included the expropriation of land for the Maya from the American United Fruit company. These actions were seen as a communist move and the US intervened and with the aid of a military coup in 1954 Arbenz was overthrown. This was the beginning of unrest and during the second half of the 20th century Guatemala has experienced a variety of military and civilian governments as well as a 36-year civil war.

The civil war ended in 1996 with the signing of the peace accords (n.a 2006:534). Severe human rights violations were committed during the civil war by the military and one million Maya refugees escaped to Mexico and Belize (REMHI 1999). In 1998, The Guatemalan Catholic Church's Recuperation of the Historical Memory Project (REMHI) was completed, and The Truth Commission (*Comision de Esclarecimiento Historico*) set up under the Peace Accords. These organisations' research concluded that 89.9% of the violations to the Maya people during the civil war were committed by government forces and their allied paramilitary bands and 4.8% by guerrillas. They recorded 42,000 human rights violations, 626 massacres and estimated that 200,000 victims died during the civil war; 83% of these were mostly unarmed non-combatant indigenous men, women and children. Of the 626 massacres documented by the truth commission, only one case has been successfully prosecuted in the Guatemalan courts.

Guatemala remains a violent country, and over the past two years, there has been a rise in attacks, fuelled by extreme poverty, inequality, and the lack of effective law enforcement. ⁴ Between 50 and 60 homicides are registered in the

³ Guatemala has a unicameral National Congress, comprising 113 members representing the legislative authority, of which 75 are elected directly and the rest by proportional representation (n. a. 2006:534). Suffrage is obligatory for the literate population but optional for the illiterate.

capital every week. Particularly young people and women are targeted, and murders of women are often preceded by violent rape. Fifty-one percent of Guatemala's women are indigenous and they belong to the social group that suffers the highest levels of discrimination, marginalisation and poverty. In some regions of Guatemala, 87% of indigenous women are illiterate, and less than 1% receive secondary education. Rural indigenous women have an average of 6.9 births per 1000 (highest rate in Latin America) and there have been rumours of forced sterilisation taking place to prevent a boom in Maya population. The UN Commission investigating human rights abuses committed during Guatemala's civil war registers high levels of sexual violence suffered by women (www.fco.gov.uk).⁵

Cloth and Maya revitalization

In this visually stunning yet volatile country live the Maya, who make up 66 %, or more, of the 11-15 million inhabitants in Guatemala. ⁶ The rest of the population are ladinos, or people of Maya and Spanish descent, American and European expatriates, and the Garifuna. The contemporary Maya are most famous for their association with the ancient Maya. The Maya lived in fishing and farming villages from as early as 2000 BC (Sharer 1994:71-137). The evolution of the villages gave rise to the famous Maya civilisation that reached its height between AD600 and AD900. The Maya built elaborate city-states in the rainforest without possessing metal or the wheel. The tallest recorded structures

⁴ Guatemala has the third most unequal distribution of income in the world, with over half the population living in poverty and nearly a fifth in extreme poverty; a sharp contrast to the extensive wealth among the business elite in the capital. Many perpetrators of human rights violations continue to escape justice due to a weak judicial system. Human rights defenders, journalists and court officials are also targets for violent crime. The law enforcement is not trusted, and in 2002 MINUGUA noted that 43 cases of extra-judicial killings were filed against the police (www.fco.gov.uk). Human Rights activists succeeded in taking the unresolved murder of forensic anthropologist Myrna Mack, assassinated in 1990, to the Inter-American Court of Human Rights. In December 2003, the Court ordered the state of Guatemala to remove obstacles to the full investigation of the case. The conviction was subsequently overturned by an appeals court, only to be reinstated by the Supreme Court in 2004. An army colonel was convicted but he escaped police custody and has not served his sentence. (<http://hrw.org/english/docs/2005/01/13/guatem9849.htm>)

⁵ Guatemala was one of the first countries to ratify the Inter-American Convention to Prevent and Eradicate Violence against Women in 1995. It has also ratified UN Conventions on racial and gender discrimination. But results have been sparse due to the poor judicial system. Currently, an *indigena* middle class in the highlands is experiencing a surge in prosperity, largely through thriving new agricultural businesses producing asparagus and other crops for export to the US (www.fco.gov.uk).

reach as high as 70 m at the site of El Mirador. Many unexcavated roads, *sacbeob*, connect sites across the lowlands and reveal a network of trade between sites. The ancient Maya created complex hieroglyphic writing and counting systems, and recorded rulers dynasties and charted several calendars based on the movements of the sun, moon and Venus, amongst others (Coe & Stone 2001, Martin & Grube 2000, Rice 2004, Schele & Mathews 1998). For several centuries, Guatemala was the centre of Maya culture, and the Maya are still regarded as one of the most advanced pre-Columbian civilisations of the New World (Demarest 2005).

The Maya are one of the most studied ethnic groups in the world (Carlsen & Prechtel 1998) and they are linguistically divided by one of the twenty-one or twenty-two Maya languages that are spoken in Guatemala (Agenda Maya 2002). This makes them one of the largest concentrations of indigenous people in the Americas. The Maya live in Guatemala's twenty-two departments,⁷ *departamentos*, which are divided into municipalities, *municipios*, which in turn are divided into a town centre, *cabecera*, and outlying villages, *aldeas*. The *municipios* are ethnically distinct and have different customs, *costumbre*, clothing and language. More than 80% of the Maya live in rural areas that don't have adequate public services, and almost 60% live in extreme poverty. In the present, the distribution of income remains highly unequal, with perhaps 75% of the population below the poverty line (www.fco.gov.uk).

Community life is important for a Maya individual since a person's place of birth and maturity is regarded as the centre of the world and the place where one's identity is formed (Bunzel 1952, Nash 1970, Redfield & Villa Rojas 1962, Wagley 1949, Watanabe 1984, Wilson 1995). The agricultural cycle plays an important part in dividing the activities of the year. It starts with the burning of the maize fields at the end of the dry season before the rains start, which is usually in late April to early June (Faust 1988, Gossen 1974). Weeding and fertilising are done in early June to mid-August. Harvesting starts in October with the onset of the dry season and can continue until Christmas. Community life in the highlands also follows the keeping of two calendars, the 260-day sacred calendar and the 365-day long count (Colby 1981, La Farge 1947, Tedlock 1978, 1982, Vogt 1969a, 1976). Maya time-keepers, *aj'k'in*, teacher of the day, follow the 260 day calendar and perform daily rituals to the calendar lords and appease them with incense, flowers and candles. This is regarded as a necessary part of daily

⁷ The twenty-two departments are; Alta Verapaz, Baja Verapaz, Chimaltenango, Chiquimula, El Progreso, Escuintla, Guatemala, Huehuetenango, Izabal, Jalapa, Jutiapa, Peten, Quetzaltenango, Quiche, Retalhuleu, Sacatepequez, San Marcos, Santa Rosa, Solola, Suchitepequez, Totonicapan, and Zacapa (n. a 2006: 534).

activity because it ensures the progression of time, which is thought of as an animate being.

The civil war affected the social, economic and material aspects of Maya identity and has resulted in ambivalence as to what it actually means to be a Maya person in Guatemala (Carlsen 1997, Carmack 1988, Smith 1988). With the signing of the peace accords, there has been a new focus on the protection of cultural rights and indigenous institutions, including the use of indigenous languages, traditional dress, ceremonial centres, sacred places, and spirituality (Jonas 2000). In recent years there has been a rise of Maya revitalization and the pan-Maya movement. Current research focuses on the effects this has in the construction and maintenance of identities, and how ethnicity is experienced in contemporary communities (Fischer 2001, Hervik 1999, Nelson 1999, Montejo 1997, Warren 1978, 1998).

The Maya employ multi-faceted ways in claiming back their indigenous power from a ladonized context (Fischer & Brown 1996). For example, Maya religious customs, *costumbre*, are regarded as being assimilated with Catholicism, and they remain an important factor in defining Maya ethnicity (Bricker 1973, Carlsen & Prechtel 1994, Fariss 1984, Freidel et al. 1993, Sosa 1985, 1989, Watanabe 1983). Wilson's (1995) work with the *K'ekchi* Maya in Guatemala shows that the revitalization efforts among the *K'ekchi* are centred around major symbols of identity, such as the mountain spirits, *tzuultaq'a*, who are an integral part of *K'ekchi* religion and spirituality. Similarly, Cook's (2000) study of Santiago Momostenango shows how religious tradition is used as part of Maya revitalisation.

With the rise in revitalisation the former view of Maya towns as "closed corporate communities" (Gossen 1986, Wolf 1957, 1959) has changed into regarding the Maya community as open and fluid. Recent studies by Little Jr (2004) highlight how the rise of transnationalism has changed the local to the global in Maya individuals' lives. Many Maya now travel beyond their communities and form social relations with foreigners in tourism related businesses and simultaneously establish new forms of identities as a process of transnationalism. Cloth plays an important part in the Maya revitalisation process and as part of transnationalism (Hendrickson 1996a, Nimatuj 2003a, 2003). Yet the materiality of cloth and how its production, selection and rejection plays a part in the construction of self has not been rigorously examined. Therefore this thesis is concerned with the materiality of cloth itself and how this constitutes a Maya person in contemporary Guatemala.

Thesis layout

The first chapter attempts to position the thesis within the theoretical framework of clothing and material culture with an emphasis on weaving, personhood, and innovation. This positioning is followed by a description of my methodology which constitutes a multi-sited ethnography, and this is turn by a description of the field methods I employed.

In the second chapter of the thesis I discuss how the material changes to Maya clothing during colonial and post-colonial times created a clothed body politic. The availability of colourfast threads has led to the weaving of multivariate forms of clothes across the highlands which have enhanced and stratified Maya society. The close association of personhood with the actual colours of cloth and the need to wear particular colours has created ambivalence as to what to wear with the ladinoization of Guatemala. In some cases Maya individuals may opt for selective dress; e.g., they mix Maya clothes with western clothes or wear purely western dress to escape prejudices.

The third chapter of the thesis describes the ethnography of skilled learning as I experienced it when learning to weave on the backstrap loom. This chapter illuminates important issues centred on body and technology. I discuss how body and tool are considered to be inseparable in the production of cloth. The interaction of body and technology during weaving plays a large part in shaping what is regarded as efficacious cloth, since weavers' skills parallel the quality of cloth.

In chapter four I explore how counting and weaving patterns are perceived by Maya weavers. The combination of numbers and colours during weaving has to conform to the Maya aesthetic of symmetry and rhythm. Each weaver has a different way of thinking about how colours and numbers should be applied in order to achieve symmetry of patterns. The research also shows that there are overarching similarities in the way specific patterns, mainly those of ancestral nature, should be woven. Emphasis is placed on the importance of the reverse side of patterns in cloth because this is an integral part of pattern formation.

Chapter five deals with how Maya weavers perceive weaving as cultural performance. Weaving is not only an activity during which cloth is produced, but it also provides a setting, a cultural space, during which women re-establish and reinforce female identity. The exchange of knowledge relating to Maya women is not only integral to the upkeep of weavers' sense of self, but it is also integral to the continuous weaving of cloth. Learning about life as well as weaving

contributes to successful integration into the social and economic fabric of Guatemalan society.

In the sixth chapter of the thesis I show how Maya weavers' knowledge has been transformed by innovation into new material forms. It is particularly the cloth aimed at tourist markets which has enabled weavers to create new cloth forms. Innovation occurs because of weavers' desires to create new cloth surfaces. This enhances self-esteem and enables weavers to secure funds by widening their cloth repertoire. The multivariate forms of Maya cloth have initiated material networks both inside and outside of Guatemala, thus connecting the local to the global.



Fig. 1.1 Shield Jaguar II, and his wife, Lady K'ab'al Xook. She is wearing an intricately woven *huipil*. Lintel 24, Yaxchilan, Mexico, AD 709.

Chapter 1

THEORY AND METHOD

Weaving, materiality and personhood

Weaving is an exemplary activity to study the relationship between cloth, materiality and personhood, because to understand how cloth is made can say more about its efficacy in creating and maintaining personhood than textual analyses of cloth (e.g. Norris 2003, 2004). Therefore I studied weaving to come to terms with how the material qualities of cloth are entangled with Maya personhood. The social and aesthetic aspects of Maya cloth production have been discussed by Asturias de Barrios (1995), Hendrickson (1995) and Kellman (1991). Asturias de Barrios (1995) and Hendrickson (1995) detail how cloth production is a process which emphasises female identity and creativity in the weaving of both commercial and personalised cloth. Kellman (1991) focuses on colour and shows how aesthetic preference of colour and fibre creates individualised cloth. My study complements their research through a comparative analysis of community-specific weaving techniques and will reveal that the very essence of being a Maya person is bound to the materiality of cloth and to the colours and fibres used during the weaving process.

To study cloth production is revelatory, as it does not rely on textual analyses of cloth or cloth making; rather, it focuses on the act of weaving itself and how this can expand our knowledge of how cloth is perceived. A study of weaving can help us to assess previous analyses which, despite the richness in colour and material of Maya cloth, have focussed on textiles as a language of visual communication (Asturias de Barrios, Linda 1991, Hearne 1985, Morris & Meza 1980, Pancake 1991, Tedlock & Tedlock 1985). The visual quality of patterns and colours has been interpreted as a kind of text. "Becoming conversant in the language of Maya dress is akin to learning how to read, only in this sense it means learning how to read cloth, clothing and the manner in which it is worn" (Blum Schevill 1997a:129). Or "To read the visual language of clothes, in other words, one must be 'literate' "(Holsbeke 2003:18). Textual analyses have dominated studies of cloth in Central as well as South America (Blum-Schevill

1987, Cereceda 1986, Zorn 2004:57). These analyses ignore the material aspects of cloth and thus disregard its potential as material in expressing personhood. To understand cloth from the point of view of its materiality negates the suggestion that clothes can be explained solely by text and language (Barthes 1985, Lurie 1981). Barthes (1985) developed what he called a "fashion system," which was a semiotic system of communication that followed structuralism compiled from an analysis of fashion magazines. These linguistic and structuralist approaches were criticised by Wilson (1985) as failing to take into account the many complex social dimensions of clothing as practised everyday. Wilson (1985:3) suggests that fashion is fluid and expressive, and that clothes lie at the margins of the body and mark the boundary between self and other, individual and society. This was the premise of earlier fashion studies which proclaimed the frivolous nature of clothes, and overlooked the potential contribution of the materiality of cloth to the making of self (Baudrillard 1981, Simmel 1957, Veblen 1899). Veblen (1899) suggested that clothes were a way to proclaim status in capitalist societies, and he thought that women's consumption of clothes made fashion wasteful. Simmel (1957) thought that fashion differentiated social classes because the elite decided what was fashionable and this excluded those who could not afford to wear the latest fashion.

Studies of Andean cloth by Desrosiers (1997:325) and (Dransart 2002:123) have suggested that we should move away from textual analyses of cloth and instead focus on the processes of cloth-making because this (Dransart 2002:123) "emphasizes the dynamic, generative symbolism of both the weaving process and the finished item." To focus on cloth production can help us to assess how the materiality of threads and tools interact with personhood and the body in the making of cloth. Recent publications by Taylor (1998, 2002, 2004), Tranberg Hansen (2004), and Kuechler and Miller (2005) suggest that the study of clothing has been divided by social scientists and textile historians. Miller (2005) points out that social scientists map out different social categories in clothing, such as ethnicity, gender and class, but they do not pay attention to the actual qualities of fabrics. Textile specialists describe dress styles and study material forms and technology but are less concerned with how clothing is informed by social structures. Miller (2005) suggests that a focus on the materiality of cloth can overcome this dualism and he urges a reconsideration of the very nature of the materiality of clothing "... [W]hat cloth feels and looks like is the source of its capacity to objectify myth, cosmology, and also morality, power and values" (Miller 2005:1). By emphasizing the sensual and aesthetic qualities of cloth and by dissecting clothing into patterns, fibre, fabric, form and production, it is possible to combine material and social aspects of dress and textiles.

Schneider's (1987) anthropological review of cloth placed some emphasis on the materiality of cloth-making and how this facilitated social relations and accrued power historically. Weiner's study of Samoan and Trobriand cloth (1989, 1992) showed how cloth production can be useful in appropriating power. Because the fragility of cloth necessitates that it be rewoven, its production can be understood as an analogy of the remaking of social and political relationships. Weiner and Schneider's (1989) edited volume contributed to the understanding of cloth-making as a metaphor in the construction of society and self. Their work points out that cloth is often referred to as a social fabric that keeps the structure of society together, and the multivalent forms of cloth across cultures can reveal social, religious and political structures that can not otherwise be seen.

For South America, notable studies has been conducted by Guss' (1989) on basket weaving which yielded rich material for understanding how the materiality of weaving is associated with everyday life. In the Andes, Silverman-Proust's (1988) study of Quechua weaving shows how specific application of colour simultaneously emphasises personhood, learning, and the efficacy of cloth. Dransart (1995, 2002) describes how spinning and weaving in Isluga, Chile is a symbolic activity and parallels movement such as dance and therefore has important implications for the social life of the community. Recent studies in the Pacific have addressed the relationship between cloth-making and personhood. Henare's (2005) study of Maori weaving shows how cloth is brought into being in the same way as a person, because Maori languages regard persons and cloth as produced in a similar way. Cloth and equally the technique of making cloth are thought to come from ancestors, and in weaving patterns, the hand is thought to be guided by the ancestors. That cloth-making evokes specific ways of being is shown in Kuechler's work on quilting in the Pacific (2005). She shows how the production, shredding and recombining of fibres reflect the composition and decomposition of states of being, and that this is very different from a conceptualisation of cloth as surface and depth. O'Connor's (2005) research on artificial fibres such as lycra reveals how cloth production parallels personal consumption and that it is the materiality of fibres that deem how specific cloth becomes associated with specific trends because cloth can be created "to order."

Cloth-making and womanhood

The present study highlights how weaving is associated with female identities and how weaving as a transitory and mediatory activity pertains to the maintenance of womanhood. The technology of making cloth is instrumental in enhancing female identities and can involve different techniques such as processing of fibres, spinning, knitting, crocheting, embroidery, sewing and weaving (Bray 1997, Guy & Banim 2001, McRafferty & McRafferty 1991, Parker 1996).¹ Cloth-making as a female gendered technology is not culturally universal, but it is an activity which is historically associated with women, and may therefore not have received attention as a technologically and symbolically important activity (M'Closkey 2000, Wayland-Barber 1995, Wilkinson-Weber 1999).² Women as the sole creators of cloth are linked to economic and social power, which weakened with the technological industrialisation of cloth making. Bray (1997) explains how women in late imperial China began to use embroidery to establish bonds among women when textile making was commercialized and taken over by men. Therefore hand-weaving is also associated with women's fear of new technologies and refusal to adapt to new ways of making things (Plant 1997).

However, the view that privileges new technologies over women's handling of cloth fails to see that women prefer hand-weaving because this technique enables women to manipulate weaving materials more intimately. The intimacy between women and cloth-making have also resulted in women's ability to use cloth and threads in ways which can be perceived as dangerous and subversive. For example, Parker (1996) has argued that embroidery defined femininity, but also defined the hidden and secret aspects of women, such as sexuality. To regard cloth-making as a potentially dangerous activity, and one which is associated with female secrets, may alter the perspective of cloth as an easily modifiable material linked to tradition and submission. Consider Barnes (1992) description of Iban women in Papua New Guinea whose transformation of unstructured fibre into cloth and the subsequent weaving of it is regarded as the warpath of women, thus paralleling men's head-hunting practices.

¹ Mumford (1934) termed this *gynotechnics*, which means a technical system which produces ideas about women, and therefore gender systems and hierarchical relations in general (see also Bray 1997).

² This is also common in other fields, e.g. Heckler's re-analysis of the South American Piara women's agricultural activities argues that women's activities are as socially and symbolically important as men's activities (Heckler 2004).

In Indonesia, Hoskins (1993) has shown that only women can be involved in the dyeing of cloth with indigo because indigo is conceived of as a dangerous substance which can cause illness in men. Similarly, Brett-Smith (1990) explains that with the African Dogon, the use of indigo is restricted to women because of its potency. Women of childbearing age wear indigo-dyed cloth with white tie-dyed patterns because the colour combination symbolises the fertile womb of the woman. When the woman has passed child-bearing age, she begins to wear plain indigo dyed cloth as a statement of her survival of giving birth because then she is strong enough to wear plain cloth. In Vanuatu, the dyeing of *singo* cloth is the sole responsibility of women and this cloth is crucial in exhibiting status for both men and women (Bolton 2003a:137-142).

Skill, gestures and weaving

Integral to my analysis weaving and personhood is how skill is developed. As a skill, weaving is intimately tied to the body because it necessitates gestural activity in the manipulation of threads and loom parts (Gillow & Sentance 1999). The backstrap loom used by Maya weavers has been noted for its involvement of the body as a tool itself during weaving through the bodily engagement with the loom (Prechtel & Carlsen 1988, Sperlich & Sperlich 1980). The importance of gestures in technology is central to much of the work developed in association with the French School of Technology. These studies have shown how the relationship between bodily gestures and tools is necessary in the making of things and in the development of technological skill (Mauss 1979, Lemonnier 1992, 1993, Leroi-Gourhan 1993). The work of the French School has largely derived from Mauss (1979 [1935]) and Leroi-Gourhan's (1993) theories on the relationship between body, gestures and technology. Mauss (1979 [1935]) argued that body technique is *effective* which means that gestures create desired material result, and *traditional* which is that bodily movements are inherited through the particular culture. Leroi-Gourhan (1993 [1964]) developed Mauss' theories and outlined an evolutionary process that he calls the "operational sequence" of the gestural manipulation of raw materials. He suggested that the technological capacity of humans evolved as the movement of the hand was freed (Leroi-Gourhan 1993).

However, these studies neglect the materiality of tools and how materiality shapes production, which was recently taken up by Ingold (2000) and De Leon (1999, 2002, 2003, 2003a). Ingold criticises the idea that technological practices constitute the internalisation of formulaic procedures. Instead, he suggests that skill is responsiveness to material and context that is required of technical proficiency (Ingold 2000:19-20). Using weaving as an example he discusses how

bodily movement and materials interact in the making of baskets (2000:342) and bags (2001:22-25) and argues that is the mutual engagement of the body and material that allows for the development of technical skill and in the formation of objects. De Leon (1999, 2002, 2003, 2003a) argues that material culture and cognition function together in the evolution of objects, and that “cognitive biographies” are embodied in artefacts. De Leon directs attention towards an understanding of the physical and social structures relevant to problem solving and the construction of new ideas (Clark 1997, Kirsch 1996, Zhang & Norman 1994). De Leon’s work refutes cognition as something which only takes place in the head, and his ideas correlate with findings in psychology that deny a Cartesian body-mind split (Gombrich 1986, Ingold 2000, Johnson 1990, Lakoff 1999 & Johnson, Merleau-Ponty 1962, Stafford 1991). De Leon suggests that we have to look at the engagement of body and tool to understand the evolution of objects because the development of skill is dependant on how we use objects. Ingold and De Leon’s arguments are applicable to this study of backstrap loom weaving and how body and loom function together in the making of efficacious cloth.

Cloth, body and gender

A new perspective on how clothing constitutes and individual, with detailed attention given to the materiality of cloth, can help us to assess how cloth creates and maintains identity when worn on the body. Clothing is integral with being a Maya person as stressed by Hendrickson (1995:193) in her insightful research on clothing in the Maya community of Tecpan, Guatemala. My study complements Hendrickson’s research by analysing the material qualities of cloth during the production, wearing and selling of cloth. Such research reveals that very essence of being a Maya person is bound to the materiality of cloth, the colours and fibres, uses during the weaving process.

Therefore a focus on the materiality of cloth can show how the tactile properties of cloth are essential in understanding how cloth creates and maintains identity when it is worn on the body. Attached to the body, the texture, colours and patterns of cloth can effectively exhibit personhood and cloth is often described as a second skin, which moulds itself on top of the body like permanent or semi-permanent body decoration (Gell 1993, Kuechler 1992, Lupton 2002, Strathern 1979, Turner 1980). Clothing is considered to have influence over the wearer because of its proximity to the body, and this enables cloth to construct the desired image of the wearer (Hollander 1993). The materiality of cloth is instrumental in how it emphasises appearance, as argued by Tranberg Hansen (2005) in her study of Zambian clothing. Colour, shape and form of cloth are

renewed and redesigned with regular cyclicity in the fashion industry and provide a facet for multiple choices in daily appearance of self (Palmer et al. 2004, White & Griffiths 2000). Thus, clothing puts the person on the surface, as Miller shows in his research in Trinidad (Miller 2005:3, 1994). Because cloth puts the person at the forefront, clothing can be perceived as an extension of the body, such as the Indian sari, in which the materiality of the *pallu*, the loose end piece of the sari, is used for mediating actions in everyday life (Banerjee & Miller 2003).

Craik has argued that dress and adornment function as part of a body-clothing complex which is constituted by and operates in ways that are consistent with a particular social milieu or habitus (Craik 1993:10, Bourdieu 1977). This is particularly true of Maya clothing because it has to be wrapped and folded around the body in specific ways to give the wearer the proper appearance. Therefore the body is in many ways made with clothing because cloth can be used to conceal and reveal body parts, and to follow fashions is a way to reinvent the body, as pointed out by Entwistle (2001). She suggests that dress is always located spatially and temporally; when getting dressed one orientates oneself or one's body to the situation, acting in particular ways upon the surfaces of the body which are likely to fit with the established norms of that situation. The dressed body is not a passive object, acted upon by social forces, but actively produced through particular, routine and mundane practices (Entwistle 2001:45-6). Clothes are best understood as situated bodily practice which is embedded within the social world and fundamental to social order (Entwistle & Wilson 2001).

Because of its proximity to the skin, cloth can keep out harmful intrusions, e.g. spirits (Bayly 1989), or establish a connection with the supernatural (Renne 1995). This is pertinent to Maya clothing as it is regarded as a protective cover for negative influences that may cause illness. Renne's study of cloth in West Africa shows how different-coloured cloth is associated with different domains of ordinary and supernatural lives (Renne 1991, 1995). It is particularly white cloth which is crucial in Bunu life because of its ability to establish a connection with the supernatural. To possess white cloth is necessary in the upkeep of personhood and of the society. Bayly's (1986) essay on Indian cloth points out how cloth with different properties entraps or releases spirits. Loosely woven cloth with a coarse texture absorbs spirits, but it also picks up polluting substances through everyday contact with food and bodily secretions. Tightly woven fabric such as silk does not absorb spirit and substances, and therefore it is more resistant to pollution. Material qualities of cloth can become idioms for desired or less desired social qualities, as Schneider (1994) points out in her essay on artificial fibres. She states how lustre of fibres such as polyester

became an idiom for sweat, and because of this the western middle classes rejected polyester because it was deemed to materialize the labour class. For the Maya, factory-made western clothing is not deemed to have the same quality as loom-woven, and the wearing of western clothes can differentiate the wearer from a “proper” Maya person.

A focus on the materiality of cloth can also enlighten how gender distinction is a crucial part in the construction of self through dress, whether made on biological or social grounds (Barnes & Eicher 1993:7). With the Maya, the materiality of cloth is poignant in gender distinction because women have remained the majority to wear Maya clothes. Dransart’s (1992) study of the Inka Earth Mother *Pachamama*’s sweeping garment shows how the long fabric touching the earth when encasing a (pregnant) woman’s body brought forth the Inka lineage. Tseelon has suggested that women’s sense of dress is fragile, and that clothes can either bolster confidence or make one self-conscious and uncomfortable (1997:61). She shows that clothing choices are constrained according to the occasion, e.g. job interviews or weddings. The desire for clothing to enhance and mediate personhood can therefore also fail due to its material qualities as pointed out by Woodward (2005). She shows how clothing can be items of social failure because the materiality of cloth prevents women from becoming the person they want to be; the cloth fails to live up to the particular social occasion.

That clothing can be socially constricting for women was shown by Arthur (1999), who explains how “fossilised fashions” or outmoded clothing styles are used in contemporary settings as visual symbols of traditional gender roles for women. This generally occurs in societies that find change to be a threat, such as the patriarchal societies of Jews, Mormons, Mennonites or Amish, who use dress codes to maintain the gendered imbalance of power. When gender roles are restrictive, there is an expectancy to see a restriction on women’s dress in specific forms of dress codes or physically restrictive clothing. Cloth can be physically and socially constricting for both men and women, as addressed by McVeigh (2001) on uniforms and Summers (2001) on the Victorian corset. But at the same time, the physical restricting has become essential in the fashioning of the self with the recent rise of figure shaping underwear, PVC fetish clothes, and liquid latex, which can be painted straight onto the skin (Fontanel 2001, Mooney 2004, Scott 2004). The fusion of cloth and body has resulted in the development of clothing as smart surfaces which react to the body’s physical changes (Kuechler 2003, Norstebo 2003). Clothing manufacturers assert that the clothes they produce can breathe, sense and live, and function like a second skin (Norstebo 2003:3).

Innovation

A study of innovation is applicable to the hand-weaving sector because the intimate relationship of the body and loom enables weavers to transmit changes to the cloth. It has been suggested that Maya clothing is less associated with fashion than western clothing, "... in just this historical continuity lies one of the essential differences between traditional dress and fashion" (Holsbeke & Montoya 2003:9). But innovation in Maya cloth occurs continuously as shown by Blum-Schevill (1989, 1997a), Hendrickson (1995) and Rowe (1981) this suggests that the introduction of new ideas has an essential part in the creation of Maya cloth. However, what we call innovation has not been detailed with regard to weaving techniques, nor with regard to how individual weavers perceive changes during the production of cloth. Back-strap loom weaving is an ideal activity to study innovation because of the intimate relationship of the body with the loom parts. The manual application of weft thread enables weavers to apply new patterns and/or to change parts of old patterns into new designs. Therefore a part of this study analyses weaving techniques in order to understand how innovation occurs during cloth production.

Traditional focus on innovation as an end in itself fails to address the complexity of the interaction between technology, personal consumption, and identity (Green 2001:174). With the renewed attention to the anthropology of technology, a holistic view of innovation has emerged, and it has been pointed out that innovation should no longer be determined by Western standards (Brennan 2004).³ Instead, technological inventions have to be understood from within the particular culture, e.g. what Lemonnier has termed "technological choice," meaning that societies can accept as well as neglect or reject new ideas (Ackrich 1993, Guille-Escuret 1993, Latour 1993, Lemonnier 1993:21-27).

Hertog et al. call human factors "intangibles," or the soft side of innovation, and they list human services and knowledge management as important factors in innovation (1997). Innovation is best understood by investigating the organic, functional and relational levels in operation, as argued by Quilici-Pacard (1993). The organic aspects of technological innovation recently re-surfaced in the works of Ingold, who argues that inventions should be seen as a growing and unfolding

³ Anthropology of technology studies have begun to question the nature of technological innovation, which is usually explained by the Darwinian approach as "descent with modification," which takes into account phylogenetic (branching) or ethnogenetic (culture contact induced) processes (Jordan & Shennan 2003:42, Ziman 2000). Cultures that did not develop technology to Western standards were previously regarded as not being as advanced as Western societies, and the term "closure" was employed as a status of their non-inventiveness (Bray 1997:7-9).

process of both person and object in a particular environment (2000). Innovation should be understood as an ongoing relation between person and material, and one in which objects can replace persons, as argued by Gell (1998:96-153, 221-258). ⁴ He proposed that objects can constitute persons and therefore can be distributed in time and space by drawing on ethnographic work done by Kuechler (1988, 1992), Strathern (1988), Munn (1986) and Wagner (1991).

Integral to Gell's idea of distributed personhood is the notion of bodies and objects being fluid and fractal, and built up of layers of things, like an onion, or a Russian doll, which can be added or peeled off (Gell 1998:139). It is precisely this idea of fractality (Wolputte 2004) ⁵ that enables innovation and creation of new forms because of the constant flux of the boundaries between persons and materials. Fluid boundaries of persons and objects are particularly a trait of innovators in the textile trade of developing countries as shown by Stephen (1991, 1993). Her study of Zapotec women shows how they establish and create different personalities to ensure economic and social survival in Mexico. This is similar to Maya weavers' situations in Guatemala, because the Maya employ strategic methods to invent new cloth designs to ensure increased sales.

Thus, the interchangeability of personhood and materiality is visible in the innovation of traditional cloth, such as Maya cloth, which has been subjected to the criticism of being static as tradition has come to mean an item or action inherited from the past (Eicher & Sumberg 1995:229). However, new perspectives on traditional clothing as dynamic and multifaceted have been implemented, and it has been suggested that so-called traditional cloth is as likely to be subjected to transformation as western clothing (Rabine 2000, Rovine 2001, Maynard 2002). Picton (1995) showed how cloth made in Europe was exported and moulded for the African markets. He commented on the word "traditional" as misleading and based on the existence of an "authentic" African

⁴ The integration of body and materials is important in developing technical skill and in the making of efficacious objects, as argued by Gell (1992). His influential paper on the technology of enchantment provided an alternative view of technology as a magical proponent based on technical proficiency. Gell suggested that skilful manipulation of raw materials creates efficacious objects, which in turn creates a bond, attachment, between people and things. The connection forged between maker and object is particularly poignant when considering the hold objects have on people even after objects vanish or are destroyed (Kuechler 1988, 2002, Morphy 1992).

⁵ In a recent review of the anthropology of the body, Wolputte (2004:262-263) concludes that the current understanding of the body and self is fragmentary in character and embodies uncertainties. He calls it a "hybridity of irony, of human existence."

practice. He proposed it was no longer acceptable to contrast the traditional with the contemporary (Picton 1995:11). Consider Taylor (2002:201), who presents a case in which Huron moose hair embroidery techniques were regarded as native, even if they were taught to the locals by French nuns.

Recently, Root's (2005) volume on Latin American fashion shows how cloth deemed as traditional is capable of multiple transformations. Norris' (2003, 2004) study of re-cycling of cloth in India shows how a transformation of both cloth and person occurs when old cloth is renewed through shredding, stitching and cutting. The remaking of cloth in India involves constant innovation in texture and form, and it is this property of renewal which makes cloth efficacious. Recent work on Pacific clothing (Colchester 2003a) reveals how personhood and cloth were transformed with new materials and influence from colonisation. Individuals chose which aspects of the new materials would best express personhood and these were assimilated in innovative ways into the existing clothing ensemble.

METHODOLOGY

Weaving the field

My fieldwork was conducted in the highlands of Guatemala, where I apprenticed with Maya weavers in order to learn how to weave on the backstrap loom. The main part of my fieldwork took place from October 2001 to May 2002. I also collected information on weaving and cloth during previous visits to Guatemala in July 1998, and October to December 1999. The fieldwork was preceded by a summer fellowship from June to August 2001 at the Pre-Columbian Studies department at Dumbarton Oaks, Washington DC, where I conducted extensive bibliographic research to familiarise myself further with the fieldwork area.

The fieldwork took place in villages and towns located in the western highlands of Guatemala, a region that has the largest concentration of communities in which the Maya are the majority of the inhabitants. The women I apprenticed with are from different Maya communities and different Maya language groups, those of *Tzutujil*, *K'akchikel*, *Mam*, *K'iche*. Becoming conversant in a specific Maya language was not possible within the given time frame and therefore Spanish was the main language of communication. Weaving techniques and life histories were collected in Spanish as seen in the quoted passages in later chapters. However, the Spanish spoken by the weavers is colloquial and not always grammatically correct, as most weavers had left school early and did not have a proper education in the Spanish language, which is reflected in the way they speak. The quotations are uncorrected because I want to preserve the authenticity of the women's voices.

For the fieldwork I decided to embark on a multi-sited ethnography (Marcus 1995) because I wanted to have the possibility to evaluate previous theories of cloth and personhood in the Maya area by comparative analysis. Applying a multi-sited ethnography proved to be a useful method because this enabled me to gather comparative information on the social and technological processes pertaining to weaving with the backstrap loom. Collecting comparative ethnographies allowed me to crosscheck information from several weavers. This method proved to be insightful in revealing differences and similarities regarding weaving techniques and materials, the finished cloth and women's position as weavers in their community and beyond.

The villages or towns the weavers lived in are connected to larger towns which receive a flow of tourists on a daily basis. Because Guatemala is located next to Mexico, Belize, Honduras and El Salvador, it provides a traveller's gateway

getting to and from one of these countries. Tourists purchase a lot of Maya cloth because it is considered attractive and inexpensive and is regarded as one of the “must have” items during travelling in Central America. The proximity to tourist markets enabled the collection of information on the commoditisation of Maya cloth. This proved useful when I collected information on the processes of innovation that weavers employ when weaving cloth for the tourist market.

The fieldwork was centred around weaving lessons which took place in the weavers’ homes, apart from the lessons with Juana which took place in the vicinity of a weaving co-operative. During my fieldwork I lived close to the weavers’ communities and travelled by foot or bus to the weavers’ houses every day. Because the fieldwork took place inside the domestic unit, I gained information on how weaving and clothing is situated in the daily lives of the weavers. Each day the women engage in weaving and juggle with multiple tasks such as making food, taking care of the children and sorting out domestic issues. If the women sell their cloth in markets they have to incorporate this into the daily schedule.

When I planned my fieldwork I deliberately chose to steer away from observational methods and towards a more participatory methodology. Because my research focuses on the relationship of materiality and personhood, I knew I had to learn how to weave on the backstrap loom in order to gain insight into the framework of material culture and personhood. Therefore I apprenticed as a weaver with the aim of studying how the materiality of threads and loom parts intersects with the weaver during the phases of production. Previous research which utilise weaving apprenticeships in the Americas has shown this to be a successful method to gain insight into weaving techniques as well as the social aspects of weaving. Studies such as those conducted by Dransart (2002), Frame (1999), Franquemont and Franquemont (1988) and Silverman-Proust (1988) have shown this to be a productive method for textile-based research in the Andes, and Schaefer (2002) for Central Mexico.

I apprenticed to weave on a backstrap loom (see fig 3.8) which is a technologically simple stick loom, consisting of several wooden sticks that the warp threads are attached to (for definitions of weaving terminology please refer to the *glossary*). One end of the loom is attached to a backstrap around the weaver’s waist or hips, and the other end of the loom is attached to a support, a tree or a beam of some sort. When a skilful and experienced weaver operates the loom it can produce very intricate cloth, much to the amazement of onlookers.

My journey into weaving started with learning how to weave warp-faced patterns on a small backstrap loom, using a few colours. Thereafter I proceeded to learn how to brocade double-faced patterns in one or two colours, sometimes with the help of a brocade stick. In the next step, I learnt finer and more complicated techniques, and this included how to use added brocade sticks, how to handle the bodkin, and how to manipulate several sets of threads at the same time. Learning to weave included the selection and valuation of the threads to be used when weaving different types of cloth; e.g. was the cloth woven for the weaver herself, her family, or a Maya or foreign commissioner or for the tourist market? To learn how to weave provided a great advantage in understanding how the loom and its product, cloth, are situated in the lives of Maya weavers. I quickly learnt the skills needed to weave on the backstrap loom and could communicate with the weavers through the common interest in weaving cloth.

Because my fieldwork was more participatory than observational, I had constantly to be aware of maintaining a degree of objectivity. This was in some cases very difficult since my personal relationships with the informants vacillated from being viewed as a close friend to "another foreigner working among the Maya." These forms of tension were eased by daily doses of humour and a mutual admiration for the cloth being woven. The actual weaving of cloth provided a good balance of objectivity and subjectivity needed when communicating with informants in a sensitive area.

Great care had to be taken during the fieldwork not to tread on sensitive ground because Guatemala, and particularly the western highlands, have a recent history of social and material instability both during and following the civil war, and these events have a part in my informants' life experiences. Therefore I followed the ethical conduct as outlined by the American Anthropological Association (1998). This required sensitivity in the gathering of information, and this meant that tape recorders and even cameras, in some cases, were frowned upon and considered an intrusion into personal space. Therefore my method of recording information included a systematic approach of taking notes of everyday activities. These were accompanied by my own illustrations in situations where information was beyond the reach of my camera.

Because the fieldwork setting changed with each weaver, I present below information pertaining to each weaver, detailing how I met them, their life situation and the daily proceedings that occurred when I learnt how to weave on the backstrap loom. All names have been changed to preserve the anonymity of the weavers.

THE WEAVERS

Lucia

The first woman I apprenticed with was Lucia. She is a *Tzutujil* Maya who lives in a village close to Lake Atitlan. I was introduced to Lucia when I was inquiring about weavers in her community, and she was described to me by a local acquaintance as the "best weaver in town." Lucia is in her mid-thirties, she is married, and has two sons and three daughters. Her husband works as a tourist guide and he also sells agricultural produce. Lucia's main income derives from the sale of cloth to tourists in the local markets and from teaching backstrap loom weaving to visiting foreigners. She is a popular person with foreigners because of her friendly and outgoing nature. Lucia often visits restaurants and bars where she will run into tourists whom she can charm into buying her products, or into taking weaving lessons from her. Lucia and her family live in a two-room adobe and daub house that has a small agricultural field attached to it. The field is mainly used for growing maize, beans, and squash, and it provides her family with food, and the surplus is sold in the local markets by her husband.

The weaving lessons with Lucia took place on the porch outside her house. Lucia made the loom herself from pieces of wood which she keeps in her garden. She made the *lazo*, rope, and the *mecapal*, backstrap, from twinned plastic rope which can be bought in the *tienda*, one of the convenience stores. The loom she taught me to weave with is small in size, as it is specifically modified to weave narrow strips of cloth. The pieces of cloth can be used as either belts or scarves. During the weaving lessons Lucia taught me how to weave warp-faced patterns, e.g., the patterns are constructed in the warps during the warping of the threads.

Lucia weaves some of her *huipiles*, belts and shawls herself, and she also buys some of them from the local cloth markets. She does not weave her own skirts; instead she buys skirt cloth from one of the skirt dealers in her community. Sometimes Lucia travels further away to other markets in order to look at other types of skirts. Her daughters wear community specific clothing which Lucia either makes or buys for them. Lucia's husband and sons wear western clothing that consists of T-shirts, shirts and jeans that are imported from the US or made in Guatemala, which they buy locally.

Isabel

Isabel is a *K'akchikel* Maya and she lives in a small town close to Lake Atitlan. She is in her mid thirties, and she has two sons and one daughter. She is married to a man who has a fairly successful agricultural business. I got to know Isabel through networking with local people in her community. Community members told me to get in touch with Isabel because she is famed for being the "best weaver in town." Isabel's income comes from weaving and selling commissioned cloth from local Maya people and foreigners. In between she also teaches backstrap loom weaving to visiting foreigners.

Isabel's family live on a fairly large piece of land, and in several buildings, thus making their living arrangements more spacious than other Maya houses I have seen in Guatemala. The main building consists of three rooms, and there is a separate building for the kitchen, which is the oldest structure in the yard. There is a *temascal* on the premises, which is a small Maya sauna used for cleansing, healing and giving birth. Chickens, hens and roosters roam around the courtyard together with the dogs and cats. Isabel's family also have another building adjacent to their house with two rooms that they rent out to foreigners.

The weaving lessons at Isabel's house took place in the courtyard, and partially under the roofed terrace, because the sun is too strong to weave directly under. Isabel taught me to weave on a large backstrap loom, which she bought for me from the local market. She also bought me a large leather *mecapal* which is very comfortable as it attaches the loom more securely to my hips than the plastic *mecapal* Lucia made for me. Isabel taught me how to weave double-faced brocade patterns, which means that the patterns are visible from both sides of the cloth, with one side of the pattern being a mirror image of the other.

Isabel weaves her own *huipiles*, belts, and shawls. She has also woven a couple of skirt cloths; the rest of the skirts she buys from the skirt dealers in her community or from nearby markets. Isabel's daughter wears community specific clothing which Isabel weaves for her, but she is allowed to wear western clothes when staying inside the domestic unit. Isabel's husband and sons wear western clothes that are made in Guatemala or in the US. Isabel buys their clothes from the local shops, or sometimes from a friend who visits the larger cloth markets in Guatemala City.

Ana

Ana is a *K'akchikel* Maya and she lives in a town close to Antigua. She is in her mid-fifties and separated. Ana's main income is from selling cloth to foreigners and teaching backstrap loom weaving to visiting tourists. She has a teenage son from her an annulled marriage. Ana lives in a one-room reed-thatched building that has a corrugated tin roof. The kitchen is placed in the left-hand corner of the one room unit and she sleeps in the area closest to the door. Ana was recommended to me as a weaving teacher from my networking contacts, and she was described by several people as "the best weaver" in her community. Ana is a very good and patient teacher. She has a lot of dealings with foreign visitors in Guatemala, these mainly from the US. She enjoys working with foreigners because she loves to meet people from other cultures. Because of this she has an extensive network of foreigners that visit her from time to time.

The weaving lessons with Ana took place in her front yard where the loom was attached by a rope to a large tree which gave me shade from the strong sun. She bought me a loom from a professional loom maker in her town, and today it remains my favourite loom because of its useful size and ease of usage. Ana taught me how to weave patterns using her community specific technique, which includes the insertion of two supplementary brocade sticks. She also taught me how to use the bodkin when weaving patterns.

Ana weaves her own *huipiles*, and most of her belts and shawls. She buys skirt cloth from her extended network of weaver friends who act as skirt dealers in her community and in nearby villages. Ana's son wears western clothes, mostly jeans and T-shirts made in Guatemala or the US. Ana buys the clothes for him from one of the markets in the larger towns or sometimes from friends who visit Guatemala City.

Juana

Juana is a *Mam* Maya, and she lives in a town in the westernmost highlands of Guatemala. She is in her mid-forties and married to a ladino man, with whom she has a teenage daughter and son. Juana lives slightly outside the town and she has a spacious house with a garden. She is wealthier than the other weavers I worked with because of her position as the manager of a weaving co-operative, and also because her husband has a well-paid job with the local council. The co-operative Juana is in charge of maintains the production and distribution of hand woven cloth from many communities in the highlands. This

was a vibrant place to study weaving as weavers from many communities visited Juana daily, and this gave me an insight into the proceedings of a co-operative in Guatemala.

The weaving lessons with Juana took place inside the weaving co-operative, in a room which faced a large window that let in sufficient light, but kept the heat out. Juana taught me how to weave several free-hand two-faced patterns, which exhibit negative images of the patterns on the reverse side of the cloth. Juana is a very patient and methodical teacher. Her knowledge of Guatemalan weaving techniques is extensive. She can identify techniques from many communities because she deals with weavers from these places on a daily basis in her work.

Juana is different from the other weavers because she wears a mixture of Maya and western clothing. She makes her own *huipiles*, shawls, and belts, but she also buys western styled blouses, cardigans and skirts. She only wears full Maya clothing if there is a special family occasion such as birth, marriage or a funeral. Her husband wears only western clothes which he buys himself from one of the shops in the town. Juana's son and daughter both wear western clothing which they purchase in the clothes stores in their community. Juana also buys clothes for them during her annual trips to Mexico. Juana's daughter also wears Maya clothes at special family occasions.

Eva

Eva is a *K'akchikel* Maya who also worked at the weaving co-operative with Juana. Eva taught me patterns when Juana had to deal with co-operative customers and producers. Eva is in her early thirties; she is married, and has two young boys. She lives in a village a few miles away from the co-operative and she has to commute by bus to the town every day. Eva joined the weaving co-operative in the hope of making more money by combining teaching backstrap loom weaving with selling her own cloth. Eva is a good teacher, and she is an expert in weaving her community-specific patterns, which she has woven into her own *huipiles* since she was a young girl. Therefore Eva weaves all of her own *huipiles*, shawls and belts, and she has also woven a couple of skirts for herself, though she buys most of her skirts from her community market.

Rosa

Rosa is a *K'iche* Maya who lives in a town in the mid-western highlands of Guatemala. Rosa is in her mid-thirties and being single, she lives in a small building that she shares with her brother on her parents' land. Rosa's main income is from selling cloth to tourists. Her native community is famous for cloth that exhibits geometric patterns made from sequences of diamond shapes. I met Rosa when I was learning how to weave with Juana because Rosa often visited the owner of the house I was staying in at the time. Rosa's main objective to visit the house was to sell cloth to foreigners, and she often cornered me with bundles of cloth that she wanted me to buy. After a few visits we began to talk about weaving. When I explained to Rosa that her town specific cloth is my absolute favourite, she expressed an interest in teaching me how to weave her community specific patterns.

After a few meetings we decided that Rosa would teach me how to weave a modified *Gukumatz*, the feathered serpent, pattern which is a specific pattern that is taught to weaving novices in her family. Because Rosa had no children she told me that wanted me to learn how to weave this because of the interest I showed in the weaving techniques of her village. During the weaving sessions we sat in the garden of the house I stayed in, and attached the top end of the loom to a tree. Rosa was a teacher with a good sense of humour and often came up with amusing ideas of how I should use the loom parts to control the weave. She emphasised how complex the structure of the *Gukumatz* pattern was when she was teaching me to weave it. This is because she knew that I had already experienced many forms of patterns by the time I started weaving with her.

Rosa weaves her own *huipiles*, belts and shawls with threads that she buys from one of the yarn shops or craft markets in her town. She buys most of her foot-loomed skirts from one of the skirt dealers in her community. If she feels that she wants to buy different coloured skirts than the black opaque skirt which is customary to her community, she travels to one of the markets in the western highlands to look at other skirts.

CHAPTER 2

CLOTH, COLOUR AND MAYA BODY POLITIC: MATERIALITY OF PERSONHOOD

Maya cloth and colour

In Maya communities, the symbolic potential of colour and its materially constitutive role have long been part of the maintenance and exhibition of identity. The colour schemes of pre-Columbian cloth have been recorded from archaeologically recovered cloth fragments, images in mural paintings, stelae, lintels, codices, ceramic figurines and vases (Corson 1976, King 1979, Mahler 1965, Miller 1975, 1986, Reents-Budet 1994, Roquero 1992, Little-Siebold 1992, Taylor 1992). These artefacts reveal that bright colours were favoured by the Maya elite who expressed authority in elaborate displays of colourful cloth together with artefacts made from jade, shell, animal skins and feathers (Bowden 1991, Freidel & Schele 1990, Tate 1992).

Cloth was predominately woven from white or brown cotton (*gossypium sp.*) and could be dyed or painted with plant and mineral dyes (Roquero 1992). Analyses of archaeological cloth remains have revealed favourable colour schemes and contributed to an understanding of the pigments used by the ancient Maya. In Rio Azul, Guatemala, Tombs 19 and 23 contained Early Classic (AD300-600) cloth covered in red cinnabar (Carlsen 1986:126, 1987:153-55), similarly in Altun Ha, Belize, a Late Classic (AD600-900) cloth bundle was painted red (Pendergast 1969:22). Blue-green gauze fragments and blue-dyed cloth have been recovered at Copan, Honduras (Agurcia Fasquelle & Fash 1991:100). Green, yellow, blue and black resist-dyed and painted plain weave fragments dated to the Postclassic and colonial periods were found in Chiptic Cave, Chiapas, Mexico (Johnson 1954). From Mayapan, and the sacred cenote in Chichen Itza, Postclassic (AD900-1100) cloth fragments had traces of dye (Mahler 1962, Lothrop 1992).

It should be noted that despite the poor record of preserved cloth, we know that several colour pigments were available in the Maya area, such as those extracted from indigo, cochineal, barba de leon, avocado, palo de mora, palo de campeche, achiote and sacatinta (Roquero 1992). It is difficult to determine the amount of brilliance radiating from the recovered cloth fragments but reconstructed images in mural paintings suggest that solid colours reflected light, and accentuated ritual performance and the body of the Maya elite (Miller 1986).

Feathers, stones and shining threads

Ethnohistorical documents mention the material qualities of Maya cloth during and after the European contact period. These sources suggest that bright colours were preferred by the Maya and consciously added to cloth. Sources describe red and blue cloth, dyed with cochineal and indigo, black cloaks, and exquisite white and multicoloured cotton weavings (Avenida 1695, General Ursua y Arismendi 1967, Airiga 1699 cited in Pendergast & Jones 1992: 285-286). White mantles are mentioned as gifts to the Spanish by the surrendering Indians, in Coban in 1530 (Juarros 1823:307) and in Mixco (Fuentes y Guzman 1932-33, vol 6:299). Several historical accounts mention that bright colour was added to cloth with silver and gold thread, and feathers. Thread was twisted from silver mined in Guatemala, or imported from Mexico (Osborne 1935:36). *Titulo C'oyoi* describes how the *K'iche* ancestors saw gilded fabric in Cubulco (cf Carmack 1973:265-345).

Fuentes y Guzman describes the *K'iche* king at Utatlan wearing fine white cotton decorated with feather designs in many colours (Fuentes y Guzman 1932-33, vol 6:10-11). The king sat on a throne situated under four canopies of cloth made of feathers, and the court was decorated with colourful cotton wall hangings and carpets. Coloured trim on garments worn together with animal skins and quetzal feathers were indicators of rank (Fuentes y Guzman 1932-33, vol 7:126). Fuentes y Guzman points out that fifty years after the Spanish conquest Maya dress still showed rank. Nobles wore white cotton with blue and red motifs, a colourful sash around the waist, a transparent white cotton mantle with bird and lion designs, whereas commoners wore henequin fibres, or were naked (Fuentes y Guzman 1932-33, vol 8:391). The hair of the elite was also interwoven with brightly coloured hair-bands to denote status (Fuentes y Guzman 1932,33, vol 7:126,146-147,vol 8:393).

Duran describes in the tribute list received in Mexico that feathers were incorporated into Maya and Aztec cloth (Duran 1964:128-129). Sahagun mentions that *Pochteca* brought cloth decorated with feathers from the Maya area to the Aztec lords (Sahagun 1961, Book 9: 2,7,8,17). In 1519, feathered, painted, and woven cloth received from Moctezuma was carried by Alonso Puerto Carrero and Francisco de Montejo to the king of Spain (Cortes 1971:45-46, Gomara 1964:86). Peter Martyr describes the cloth received from Moctezuma fringed with gold and precious stones, quills and feathers (Martyr 1885:198). In 1570, Fuentes y Guzman noted that Maya women's knee-length blouses, *huipiles*, were decorated with colourful feathers (Fuentes y Guzman 1932,33 Vol 7:146-147). In 1585, the *Tzutujil* Maya living by Lake Atitlan wore feathered cloth, as described by Alonzo Paez Betancour and Fray Pedro de Arboleda to Phillip II of Spain (Broussard 1952:56,88,111). As late as 1627-1637, Thomas Gage saw Maya women with feathers interwoven into *huipiles* close to Guatemala City (Gage 1958:220-221,250-251).

Colonialism and new materials

The materiality of Maya cloth cannot be dissociated from the Spanish colonisation and the introduction of new materials to Guatemala, which heightened the value of cloth. During the changing political climate in colonial times, Maya clothes underwent changes in colour and form.¹ It was particularly the influx of imported materials brought to Guatemala in the colonial and postcolonial periods that enabled weavers to execute and solidify ideas of what was specifically Maya. These materials included silk, velvet, wool and lace, and it was these materials which allowed colour to become the medium which mediated political ideas.² Silk was imported from China to Guatemala in the fifteenth century, because there was a demand for decorating the luxury clothes of the Spanish elite (Museo Etnologico 1989:39). When silk was introduced to Guatemala, it replaced the feather decoration in Maya ceremonial cloth, and was also worn daily by elite Maya women (Morrissey 1983:122,175). Strong purple became by the nineteenth century popular with the Maya; it was previously woven solely for the Spaniards by Maya weavers (Osborne 1965:116). The prestige associated with purple and silk began during the colonial period and is

¹ For a detailed discussion on the stylistic changes of Maya clothes see Rowe (1981) and Miralbes de Polanco and Knoke de Arathon (2003).

² In Argentina, Root (2000) shows how following independence from Spain, dress played an important role in the configuration of a national subject, and persons wore colours of the desired political party.

still visible in contemporary Maya ceremonial clothes (Morrissey 1983:16) such as those of San Pedro Sacatepequez.

Sir William Perkin invented synthetic dyes in 1856, and shortly after they were introduced to Guatemala (Carlsen & Wegner 1991:361). In 1876, Guatemala's first thread factory was founded in the western highland town of Cantel, and this made colourfast thread readily available (Berlo 1991:450). The progression to using synthetic colourfast threads was gradual and weavers continued to use natural dyes, such as cochineal, indigo and murex into the 20th century. Purple was derived from the *Purpura patula* mollusc until the 1930s; after this, the high cost stopped its usage and synthetic dyes were used instead (Carlsen & Wegner 1991:365-367). Indigo and sacatinta were used for blue-dyeing cotton, wool and more rarely silk (Carlsen & Wegner 1991:368-69).

Cotton was dyed red with alizarin (*Rubia tinctorum*) during 1875-1927 and not cochineal which was previously suggested (Carlsen & Wegner 1991: 369-70). After the 1930s, alizarin use faded and was replaced by synthetic dyes (Carlsen & Wegner 1991:371-72). With the introduction of synthetically dyed threads, weavers gradually began to use these in weaving because they were colourfast and cheaper. Other materials such as silk floss reached its zenith in 1930s; and after this, rayon and mercerised cotton became more popular because they were cheaper and easier to source (Deuss 1996). Acrylic and mercerised cotton began taking over from wool in the 1960s, and their popularity is prevalent in contemporary Maya cloth (Altman & West 1992).

The availability of bright colourfast threads transformed the look of Maya clothing. Because the time advantage in using pre-dyed and pre-spun thread is enormous, weavers could devote more time to weaving intricate patterns and accentuate colour brightness. Since the 1960s, weavers have transformed the surface of cloth with unforeseen colour combinations and this has resulted in an enormous variation in colours and patterns across Maya communities. Cloth surfaces have exploded in a myriad of forms which resulted in a geography of colour in the Guatemalan landscape (fig 2.1). The expansion of colour schemes regionally across Maya communities has enabled cloth to locate the wearer in relation to place of origin and to exhibit social and political status.

Covering the skin: formation of body politic

Parallel to the introduction of new weaving materials to Guatemala, the Spanish colonial regime began to implement changes in Maya clothing with the desire to define Maya identity.³ This suggests that Spanish officials wanted to have visual as well as governmental control of the Maya. The Catholic Spanish wanted to clothe the natives and this was mainly directed at Maya women. Prior to European contact, Maya women's everyday dress consisted of a wrap-around skirt, while the upper body was left uncovered. Elaborate *huipiles* were reserved for religious use and particularly for elite Maya women, who wore them loose on top of the skirt.⁴ During colonial rule, the Spanish regime banned Maya women from entering churches with a bare chest and this may have stimulated women to begin weaving and wearing *huipiles* for everyday use (Holsbeke 2003:31, Socolow 2000:48). Maya men wore cloth wrapped around their hips, and mantles on the shoulders; the exposed parts of their bodies were therefore not as offensive to the Spaniards as the sight of Maya women's naked breasts.

With the influx of European garments to the Americas, many indigenous women began to mix and match European clothes with their own (Socolow 2000:42). Contemporary Maya women's colourful clothing style is in fact the result of women's appropriation of European clothing that accompanied the Spanish colonisers into the changing political and social landscape of Guatemala (Holsbeke 2003, Miralbes de Polanco & Knoke de Arathon 2003). With the ban on baring the upper body and the constant influx of European women who fully clothed their bodies, Maya women adopted European fashions to fit in with their own clothing styles. There was a desire to accentuate the female body shape and the style of Maya women's dress was transformed. Previously, the *huipil* was worn long, loose and free flowing on top of a skirt, or it was the only garment, worn as a dress. During colonial times, women started to tuck the *huipil* under the wrap-around skirt, which was fastened at the waist with a slim belt. Maya men's dress also underwent changes during colonial times, and men

³ Martinez Pelaez (1990) suggests that eventually the Spanish assigned specific colours to Maya villages so that the new Spanish ruling class would know which village the Maya came from.

⁴ Pre-Columbian Maya women held powerful positions at sites such as Tikal, Yaxchilan, Copan and Naranjo (Prouskoriakoff 1961) and imagery of Maya women in sumptuous dress was important for asserting political power. Clad in coloured and patterned clothing that express their nobility and power, they functioned in rituals evoking ancestral memories (Schele & Miller 1986). Parkins (2002:3) asserts that visual representation of the female in the political domain is significant, for example, Elizabeth I, proclaimed her sovereignty through what she wore.

started wearing western-style trousers, shirts and jackets (Blum Schevill 1997a, Miralbes de Polanco & Knooke de Arathon 2003).

However, the subjugation of Maya identity, which was started in colonial times by the Spanish regime, did not result in the disappearance of Maya cloth. For example, despite the royal warrant proclaimed by the Spaniards on 25 October, 1563, which prohibited Indian use of gold and silver thread and the weaving of patterns, weavers continued to weave and to add these materials to cloth (Osborne 1965:18). The change of clothing styles should not be seen as a submissive gesture which had to be adopted under the new colonial rule, as suggested by Alves (1990) for the Aztecs. He suggests that the Spaniards used material culture and the ideas surrounding them in subjugating Aztec political autonomy, and that it was the removal of Aztec material culture which enabled the Spaniards to take over the Aztec regime. In the Maya area, the clothing rules imposed by the Spaniards on the Maya served as an instrument of identity because cloth was adapted and embellished by weavers' use of imported materials. With these innovations, *huipiles*, skirts and belts began to express a regional and community-bound identity.

The refusal to stop weaving and wearing Maya clothing has resulted in dress being central to representing the body politic of the Maya in Guatemala. Cloth is exemplary in representing the body politic because of its ephemeral and fragile nature, which enables and requires clothing to be rewoven.⁵ It is the weaving of cloth in response to clothing demands that reveals cloth's capacity to materialise political change. Cloth will not stay static and non-invasive, but will continuously be recreated in new forms. The pivotal place assumed by cloth in the fashioning of the state is not unique to the Maya, but has been analysed with reference to Europe. Here, clothing has been powerful in fashioning the body politic, as shown by Parkins (2002). She suggests that it is particularly when the body politic has been scarred due to political changes that "practices of dress could be deployed by states to resolve this problem of representation" (Parkins 2002:3). In Guatemala, the Maya body politic has been scarred from 500 years of epidemic diseases and unjustified killings (Lovell 1988, Nelson 1999).⁶ But, in

⁵ The medieval and early European model of the body politic is materialised in the metaphor of the king's two bodies. This model argues that the king had a "body natural", the physical, mortal body and a "body politic," the state as a metaphysical immortal corporation; the natural body of the king thus represented the body politic (Kantorowicz 1957). The absence of the king's body, e.g. the disappearance of a unified body politic implemented material changes to represent the body politic, one of which could be dress.

⁶ (Nelson 1999:1,2): "Because there is a body in the metaphor, but a body that is deeply contradictory - scarred and wounded by violence - I think the metaphor is useful for describing the body politic of the Guatemalan nation. Guatemala is emerging from a civil

Guatemala, it is not the state which has deployed dress as the body politic, it is the Maya who have continued to wear regional dress to heighten their presence.

Because of the political value of cloth, the danger of wearing Maya clothing was raised during the 36 year long civil war (1960-1996) which resulted in the displacement of ca 200,000 Maya by the Guatemalan military (REMHI 1999).⁷ During the displacement period, the Guatemalan military were taught how to identify a Maya person by recognising the colour and patterns of their dress (Nelson 1999:184, REMHI 1999:48-49). This resulted in Maya women and men temporarily abandoning their community-specific clothing because they knew that originating from the wrong place could lead to them being captured, tortured, raped and eventually killed, if spotted by the military. The difficulty in obtaining thread for weaving and not having time to weave also created an economic backlash, but the economy is recovering slowly (REMHI 1999:49).

Post civil-war, less and less Maya men are wearing regional clothes, whereas a large majority of women continue to wear them.⁸ Maya men's abandonment of wearing bright colours has situated women clothed in Maya dress in Guatemala, and the global world, as the trademark for indigenous culture, dressed in a brilliant feast of dazzling colour and pattern. This suggests that the Maya body politic has become gendered female as women have continued to wear bright colours, in contrast to Maya men who have opted for western clothing in duller colours.

Recently, the Maya scholar Alicia Velasquez Nimatuj pointed out that Maya women's dress has played a leading role in historical resistance against the Guatemalan government's assimilation policies and "the constant but subtle pressure to give up our regional dress" (Nimatuj 2003:159).⁹ She explains that

war that displaced one-eighth of the population and left some one hundred and twenty thousand people dead or disappeared: the wounded body is thus also terribly material."

⁷ The political reasons, and the effect this has had on the social and political organisation of the Maya has been discussed in numerous volumes (Carmack 1988, see references of REMHI 1999).

⁸ Fischer reports that in Tecpan, Guatemala, the reason that men don't wear Maya dress and women do, is because women are braver than men (Fischer 2003:116).

⁹ Parkins' work on the gendered body politic shows how suffragettes challenged their exclusion from a masculine body politic by drawing attention to their sexual specificity as women, most notably through forms of dress; "fashion was a form of agency for suffragettes, enabling and enhancing the women's acts of protest" (Parkins 2002:5).

wearing Maya clothes continues to activate racial harassment, and that it is women who face constant acts of racial discrimination. Nimatuj herself was barred from entering a restaurant in Guatemala City because she was wearing her regional *K'iche* Maya dress. More recently, with the rise of pan-Maya activism and the indigenous revitalisation movement (Fischer 2001), Maya women have started to wear clothes from other communities. In this way, women have overcome the anxiety of being placed in a community-bound category and instead show their Maya identity as a unifying category over Guatemala as whole.

CLOTH, COLOUR AND VALUE

"Our cloth, our colours"

Clothing in contemporary Maya communities varies between wearing hand- and foot-loomed clothing and western dress, *vestido*, or sometimes a combination of both. However, the effect of colour is confined to hand and foot loomed cloth, which are described in terms of *nuestro tela, nuestro colores* (our cloth, our colours) or *tela Maya, colores de Maya* (Maya cloth, Maya colours).¹⁰ *Nuestro tela* for women comprises the backstrap loomed *huipil*, which is a rectangular piece of cloth with holes for the head and arms.¹¹ The *huipil* can also be foot-loomed or sewn from western fabrics. The woman's skirt is a rectangular piece of cloth woven on the foot loom, wrapped around the body, and fastened with a belt woven on the backstrap loom. This outfit is combined with a shawl woven on the backstrap loom, which is used for wrapping around the shoulders to keep warm. It can also be used to carry things, or wrapped around the shoulders to hold a baby. A smaller cloth is sometimes worn on the head as protection from the hot sun. Leather sandals, flat or with a heel, are worn on the feet.

Men's *tela Maya* comprises hand- or foot-loomed trousers and a cloth, *rodillera*, which is wrapped around the hips, together with a foot-loomed shirt and a

¹⁰ The clothing I discuss is derived from my fieldwork conducted with weavers and their network of families and friends from five different communities. In each of these communities, clothing is distinguished by uniqueness in colour.

¹¹ The term *huipil* is commonly used in the literature describing a Maya women's blouse. However the Maya term for women's hand-woven blouse changes according to language, e.g. in *K'iche* and *K'akchikel* it is *p'ot* but when the weavers speak Spanish they call it *guipil*.

backstrap woven or leather belt. Leather sandals are worn on the feet, and many men wear straw fibre hats. Men also wear a hand-loomed bag across the shoulders; these may be woven by them or by their wives. In the communities I worked in, most men wear western clothes consisting of jeans, trousers, T-shirt, shirts, sweaters and short jackets, and trainers on the feet.

Colores de Maya is a term referring to specific colours of clothing which are used in the different communities to denote locational information. Each community has its own parameters of colours which have potential in the construction of personhood. Community-bound colours are so specific that when talking about a Maya community, it may be described as the blue village, the pink village or the red village because the colour of clothing differentiates the communities from one another. Remarks such as “that is the blue village” or “isn’t that close to the blue village?” and “look, she comes from the blue village.” The striking blue of the *huipiles* in this case makes blue the identifying colour of the village.

Each weaver I worked with emphasised the importance of her village colours as the colours which denote origin. In Lucia’s community, women wear blue and green *huipiles* with a blue-green skirt. Men wear white and red-striped trousers with blue, red and green patterns, together with a white shirt. In Isabel’s community, women prefer red *huipiles* with purple or multicoloured patterns in green, yellow and orange, together with a black skirt. Men wear red trousers and a brownish black *rodillera* and a white shirt. The *huipiles* in Ana’s community have a mauve ground weave and brocaded geometric patterns in blue, yellow, green, white and red, and these are worn together with a blue-green *jaspe* (tie-dye), or an opaque blue wrap-around skirt. Men wear white-and blue-striped shirts and white, and blue- and white-striped trousers. In Juana’s community women wear white *huipiles* with multicoloured patterns in lilac, yellow and green, together with a black or blue skirt. Here, men wear mostly western dress. Rosa’s community prefers pink-red *huipiles* with bright red patterns, or white *huipiles* with red, blue and black patterns; these are worn together with a black skirt. The men wear black *rodilleras*, sometimes without the trousers and a white or white and red stripy shirt.

Ancestors, souls and *poder*

Maya personhood is thought to be preserved in the cloth itself, and particularly in the colour. Thus, for a Maya individual to be a proper person necessitates that the body is dressed in Maya clothing because this is the very essence of being Maya. A Maya individual is not regarded a proper person if she or he decides not to dress in Maya clothes. Rosa explained “you are not Maya if you don’t wear

Maya clothes,” and “when a Maya woman does not wear Maya colours, she is no longer Maya.” A foreigner should not dress in Maya clothes because Maya clothes are not appropriate for foreigners. Ana said “you have to be Maya to be able to wear Maya clothes.” To wear Maya clothes is a form of social control, and it shows the properness of being a Maya individual. Clothing is therefore “...used to show that the person is on the ‘right and true path’” (Arthur 1999:1).

This social control of clothing is more or less dictated by Maya ancestors because it was the ancestors who founded the art of weaving and the colour concepts. Work on Maya colour concepts suggests that colour terms by semiotic extension classify and categorize the Maya world (Agenda Maya 2000, Fischer 2001). Colour is an inevitable part of Maya cultural logic, and the colour directional terminology and its associations are well-established among Maya groups in Guatemala and Mexico; white is north, south is yellow, red is east, black is west and green-blue is the centre (Bassie-Sweet 1996, Becom & Aberg 1996, Berlin & Kelley 1961, Gossen 1970, Greenberg 1984, Marcus 1970, Taube & Miller 1993:77-8, Schultze Jena 1945:28-39,63, Tedlock 1978, 1992, Thompson 1934, Vogt 1976:6, Watanabe 1983).

Since a Maya person possesses a part of the primordial and ancestral soul, this obliges an individual to act correctly because the ancestors have to be honoured with the right behaviour. Ancestors are believed to observe the daily activities of their living kin and if they don’t behave in the right way, the ancestors can punish the living kin with poverty, illnesses and childlessness. There has been a lot of ethnographic concern with the concept of body and soul in Maya communities. The Maya body has been recorded as comprising one, two, or more souls which are encased in the body. The souls are thought to reside in either the heart or the stomach, and souls are distributed to the individual through the parental line which originates from the mythological and ancestral mother-fathers who created the Maya world (Brinton 1894, Blom & La Farge 1926-27, Fischer 2001, Gossen 1975, Greenberg 1984, Guiteras-Holmes 1961:23, 205, 280, Hermitte 1964, La Farge 1947, Laughlin 1969, Redfield & Villa Rojas 1962, Saler 1969, Tax & Hinshaw 1969, Thompson 1970, Vogt 1969, 1969a, Wagley 1969).

The soul is described as being part of everybody and everything, the earth, the sky and even the cloth. Ana explained “... el alma es parte de todo... mujeres, hombres, los niños y animales todos tienen alma... tambien la tierra madre tiene alma y el cielo padre tiene alma ... y la tela tambien...” An individual is also described in terms of being strong, *fuerte*, or weak, *debil*, *flojo*, and this

depends on how much *poder*, power, they have accumulated in their bodies.¹² Isabel said "... buenas personas tiene mucho poder pero personas malos son flojos, no tiene mucho poder...si el alma es fuerte, el tiene mucho poder. "

A person's *poder* or bodily heat is attached to the blood and the soul, and the amount of *poder* contained in the body varies according to age, gender, social and political status (Fischer 2001, Gossen 1975, Greenberg 1984, Hanks 1990, Holland 1962, 1963, Laughlin 1969, Marshall 1986, Orellana 2001, Redfield & Villa Rojas 1962, Saler 1969, Tax & Hinshaw 1969, Villa Rojas 1963, Vogt 1969, 1969a, 1976, Wagley 1969). A newborn baby is virtually empty of *poder* due to social inexperience, and as the child grows *poder* will accumulate in the body through increased social interaction. During puberty the body accumulates *poder* paralleling the individual's capability to procreate. *Poder* rises steadily throughout adulthood and marriage because of the formation of an individual into a couple. *Poder* reaches its potential in the bodies of elderly persons who have a lot of life experience. Status is also defined by *poder*. Persons who have, or possess, more *poder* in their bodies are more successful in the community than those who have less *poder*. Weak people are those who have poor will, cannot stand by their word, cheat, drink too much alcohol, or are otherwise unreliable. Ladinos and foreigners are also divided into strong and weak persons, according to the same criteria, the reliable ones, who are not that many, are described as good, strong people. Foreigners and ladinos who cannot be trusted and who only try to make friends with the Maya to gain something for themselves are considered weak persons.

¹² In Hendrickson's fieldwork, powerful people were described as having strong blood, *sangre fuerte* (Hendrickson 1995:99). In Greenberg's fieldwork, ladinos and foreigners were thought of as having much power, and ladinos were considered hot because they are wealthy and therefore dominating (Greenberg 1984:82). In pre-Columbian times the idea of heat was always related to great leaders. The concept of *kinam* was associated with chiefs that invoked respect and this term derives from *kinal*, heat and *k'in*, sun or day (Villa Rojas 1980:33). With the *Pokomchi* Maya, the chief's title of *K'ak Tepeu* translates as 'hot majesty', these persons were described as gods (Miles 1957:767). The blood of Maya kings may have been hotter than normal persons because of their connection with solar symbolism (Stuart 1995:233-242, 246-47). The hot body state of Maya leaders was connected to the status of their *way*, co-essences or soul companions. Epigraphic and pictorial evidence indicates that the concept of co-essences or soul companions was a part of the cognitive notion of personhood with the Pre-Columbian Maya (Houston & Stuart 1989, Grube & Nahm 1994). Although later decipherment indicates the *way* creatures may be supernatural guardians of specific places, they maintain a connection to heat and brilliance through their names of fire jaguar, sun stomach jaguar, red jaguar, fire peccary, fire tail coati, fire belly fox, fire bat, fire centre death, red bile death and fire.

Weavers and maternal ancestors

To adhere to proper dress codes is particularly relevant for Maya women since their maternal ancestors are believed to observe rigidly whether the right conduct of weaving and wearing Maya clothing is maintained.¹³ Being a weaver, a woman has a certain responsibility in managing the colour schemes in her immediate family unit. Women manage the accumulation of cloth in the family unit and they decide which clothes are worn, and when and where it is appropriate to wear these. If the female head of the family is a weaver, she pays meticulous attention to what each family member is wearing. She weaves the *huipiles*, shawls and other utility cloth for herself and for her daughters. She will also have a say in what the male members of the family are wearing, even if they are wearing western clothes.

Knowledge of community-bound colours is taught to women when they start weaving so that they understand that specific colours will identify them as a Maya person from a specific place. It is important for weavers to understand why colours among communities vary, so that they know which colours are considered theirs, and why it is important to use the community-bound colours and not other colours. Ana explained how the colours of her community clothing tie in with ancestral obligations because weaving was founded by the ancestors who wanted to immortalise the rainbow in cloth. The translation from the Spanish is my own:

Our ancestors admired the colours of the rainbow in the sky for a long time. They thought it was very beautiful to see all the different colours next to each other and they wondered if it was possible to turn this into cloth. They started to ask the gods for guidance and they prayed and prayed for skills to know how to make the rainbow into cloth. Soon after this IxChel (the rainbow goddess) answered their prayers and taught them weaving. This is the reason why the colours of the brocade patterns in my village follow the colours of the rainbow.

The range of colours in Ana's community clothing recalls the point in time when the art of weaving was created through the transformation of rainbow colours

¹³ I have on several occasions been introduced to the mothers of weavers; however, they were never present in flesh, only in spirit. When Lucia asked me if I wanted to meet her mother, I said yes, so Lucia asked me to meet her at the cemetery where we would share a meal with her mother.

into threads. Ana explained that colours are continuously rewoven as cloth in order to establish the connection with the ancestral past. To continue to weave coloured thread into cloth is perceived as a link between the human and ancestral worlds.¹⁴ Thus when weaving and wearing cloth, ancestral obligations are re-enacted and the connection to the ancestors is strengthened. Ana explained that it is necessary to continue to weave to please the ancestors, the mothers, and grandmothers. Ana: "... los ancianos quieren las mujeres estaban tejiendo la tela, tambien las madres y las abuelas quieren esto actividad ..."

The weavers explained that it is important to realise that even if the availability of a wide range of colourfast threads has changed the look of Maya clothing, the synthetically dyed colours are still regarded as being the colours of the ancestors. This is because it was the Maya ancestors who founded the colour concepts and they favour the use of colourfast colours in clothing, as this makes for longer lasting colour brightness which makes the cloth stay efficacious for a longer time. Isabel: "... los ancianos los gustan colores fuertes porque los colores son brillantes por mas tiempo que los tintes naturales, los colores sinteticos son buenos por la vida de la tela..."

Juana remarked that the ancestors like that the Maya use bright colours because this makes them more visible and makes it easier for the ancestors to recognize them when they look down to earth. This is why weavers like to experiment with bright colours in different combinations, because it increases their visibility when they walk on earth. Juana explained that to be able to use synthetically dyed threads is an advantage for the ancestors, weavers and the Maya people alike. Weavers can experiment with new colours and weave cloth which the ancestors are pleased with, and at the same time the Maya can retaining and enhance their identity by wearing this cloth.

¹⁴ Consider Adam's work with the Sumba where yarn is regarded as connective tissue which forms a bridge between the human and spirit world (Adams 1975:36).

Binding the threads: making the skin

Weaving cloth is thought to be an act of binding threads together, and when cloth is worn on the body it is thought of as binding an individual together and creating a person. Ana explained that "... thread is bound together in the weave, this makes cloth...and when cloth is put on a person, it binds the body...this makes a person..." The weaving of colour into cloth is considered to form another layer on the body and it functions much like a second skin which protects the individual from harmful intrusions. The protective measure of this second skin of colour is attributed to the potency of colours in the weave. The potency of colours is reflected not only in their value as ancestral fibres that are re-woven into cloth, but in the amount of *poder*, power, or heat, they contain.

Poder is attached to colour saturation. Bright colours of high saturation such as bright blue, deep purple, cadmium yellow, fiery orange and deep green are *colores fuertes o calientes*, strong or hot colours, and they contain more *poder* than colours of pale saturation, e.g. light green, light yellow, light orange, light blue.¹⁵ *Colores fuertes* are considered to be on fire, whereas pale colours are thought to be cooler.¹⁶ Weavers point out that it is essential to understand that

¹⁵ Colour remains problematic to theorising because of its enigmatic nature (Gage 1993, 1996, 1996a, Wigley 1995). Anthropological studies of colour have revealed that texture of colour, e.g. smooth, rough, shiny, matte colour surfaces, are sometimes more important than the hue (Conklin 1955, Coote 1992, Morphy 1992, Strathern 1979). Turner (1967) demonstrated how colour symbolises bodily substances, e.g. red is blood, white is semen and black is death which was taken as universally bound. Linguistic analyses by Berlin and Kay (1969) argued that the classification and recognition of colour follow a specific pattern and is universal. Gell (1975:309-346) argues against this universality, and shows how Umeda colour categories are more of an associative nature in the progression of life, with colour efficacy paralleling life cycles not only of humans, but the colours of all things around them.

¹⁶ The division of colours in the Maya area into cool and hot differs from the western concept of colours where cool categories consists of blue hues and warm colours of red hues. MacLaury's (1996) Mesoamerican Colour Survey suggests that when Mayan speaking people classify colours there is an overlap between cool versus warm categories which does not exist in Western colour theory. His study shows that what western classification deems as warm colours are not necessarily thought of as warm by the Maya. Instead colours are thought of being cool because of the paleness of a specific hue, e.g. pale orange is not warm because it is not a bright colour of strong saturation. The psychological affect of colour, meaning how we decide if colour is hot or cold, cannot be used as a universal category in colour theory. Maya see colours differently, which may not be evident to the non-Maya person seeing the same colours. The perception of colour is individualised in humans because of the biological variations of the cone and rod photoreceptors at the lining of the retina (Baylor 1996). The thricomancy of colour vision, which means that any perceivable colour can be created by mixing together light of the

colours of the same hue are considered strong or weak depending on saturation. For example, dark purple is considered strong, whereas a pale purple is considered weak. The same applies to bright blue which is considered strong, whereas light blue is considered weak. Red is an exception, since all shades of red are very strong; even pink is regarded a strong colour.

YES Colours

High saturation	High saturation
white	White
black	Black
yellow	Yellow
orange	Orange
red	Red
green	Green
blue	Blue
purple	Purple

YES Colours

Low saturation	High saturation
n/a	White
n/a	Black
pale yellow	Yellow
pale orange	Orange
pink	Red
pale green	Green
pale blue	Blue
lilac	Purple

Fig. 2.2 Colours that can be combined with each other.

three colours, red, green, blue, gives humans unlimited colour perception (Longair 1996). Colour can therefore represent cultural knowledge and be used for its own inherent perceptual properties of hue and saturation which is relevant to the particular culture. Or, as MacLaury points out "colour is an attribute with no form of its own other than its unique hues and other perceptual qualities such as brightness and saturation" (1996:380).

NO Colours

Low saturation	High saturation
pale yellow	Orange, red, green, blue, purple
pale orange	Yellow, red, green, blue, purple
pale green	Yellow, orange, red, blue, purple
pale blue	Yellow, orange, red, green, purple
lilac	Yellow, orange, red, green, blue

Fig 2.3 Colours that cannot be combined with each other.

Weavers' manipulation of colours is instrumental when weaving cloth. The placement of colours has to be considered carefully so that the right combination of strong and weak is achieved (figs 2.2-2.3). Specific colours cannot be combined because of their potency. Highly saturated colours can be combined with equally strong colours to create effective cloth; this makes a strong colour even stronger because it gains strength from being next to an equally strong colour. A deep blood red can be combined with bright sky blue, yellow with hint of green, bright orange and green that shifts in blue. These colours of pure bright hues function perfectly together because they complement and enhance each other's strength. White and black can be used together with all colours.

Highly saturated colours should not be placed right next to colours of low saturation of another hue. Bright red or bright blue should not be placed next to pastel green or light yellow because this weakens the pale colours too much and destroys the balance and therefore the overall effect of the cloth. The pale/weak colour has to be moved to another place where it is shielded from a strong colour, much like a weak person has to be protected from persons who emit too much bodily *poder*. Low saturated colours cannot exist on their own in cloth because this would be disastrous for the well-being of the person. Colours of low saturation can be complemented with highly saturated colours of the same hue, e.g. bright green with dark green, light blue with dark blue, purple with lilac.

When weavers bind the threads together in the weave they have to know which colours to use because there is a limited amount of strong/hot, e.g. highly saturated, colours a person can wear. The amount of hot colours an individual can wear depends on how much *poder*/heat an individual's body possesses. Colour of clothing is extremely important because the amount of bright colour in cloth has to correspond to the changing amounts of *poder* contained in the body. A person cannot wear clothing that clashes with the degree of *poder* they possess, and as a person proceeds through the lifecycle, different forms of cloth are made. Persons who have embodied more *poder* in their bodies through life experience can wear brighter colours; e.g., older women who have gained a lot of experience through life can wear brighter colours than young girls who don't know much about life yet. Weaker people such as children, pre-pubescent teens and unsocialized adults cannot wear very bright colours because they have not accumulated enough strength in their bodies to be able to handle these colours. It is important for a Maya person to adhere to these classifications because if these conducts are not followed the individual may afflict harm not only to himself, but also to other people in the community.

TOWARDS BRIGHTNESS: COLOURS, POTENCY AND MATERIALS

White and brown

Before the introduction of colourfast threads, white and brown cotton were the main fibres used for weaving cloth (Asturias de Barrios 1997). Their potency remains vital in contemporary weaving because of their ancestral connection, and white and brown cloth can only be handled and worn by persons who possess much *poder*. Ana explained that white cotton is called *hueso*, bone, and it is regarded as the structural foundation of both cloth and humans. Before the introduction of colourfast threads, white cotton was the most common foundation weave for cloth, hence its association with bones as the structure of the body. White is associated with the cardinal direction north, and the original significance of white has changed in some Maya groups because of what their ancestors had to endure with the arrival of white people. In the past white was associated with ancestral wisdom, but today white can also symbolise money, property and white people. White is valued because it complements all other colours during weaving. Juana explained that she weaves white *huipiles* with

patterns in blue, red, green and yellow and she favours white as the foundation for *huipil* cloth because it makes the other colours stand out.

Brown cotton, *ixcaco*, is linked to creation and exceptional strength because it was the first thread to be spun and woven in the ancestral past. Because of its special value, brown cotton is only used in ceremonial cloth at present. In Tecpan, Guatemala, brown cotton can cure physical ailments such as the evil eye because it is full of strength, and has a big sun because it comes from the face of the earth, and possesses creative force like semen (Asturias de Barrios 1997a:73). All weavers explained that they love natural brown cotton, but that it is too precious to use in everyday *huipiles*. It is described as difficult, yet wonderful to weave with. Its fragile nature is due to short staples and this necessitates brown cotton to be hand-spun into thread because it breaks if it is spun with a machine.

Ana and Juana both knew weavers who specialised in weaving with brown cotton and these women were regarded as having a special calling for using brown cotton. Ana described a woman who lived in a community close to hers and made gestures with her hands to conjure imaginary piles of brown cotton in the woman's house, "... she knows how to handle *ixcaco*, she has been weaving for a long time, there is much *ixcaco* cloth in her house..." To know how to weave with brown cotton makes a weaver gain the reputation of being very skilled because to manage the frailness of the brown fibre requires much patience and diligence.

Both white and brown cotton are associated with supernatural brightness which is connected to the bodily states of female and male healers. These individuals have the capability to experience *coyopa*, blood-lightning, in their bodies, which is a sign that the person has supernatural powers and can become a diviner and/or healer (Tedlock 1992).¹⁷ Blood-lightning is described as the "speaking of the blood" and caused by the rapid movement of lightning, *coyopa*, within the blood and muscles of the diviner (Tedlock 1992:138). Blood is considered an animate substance, capable of sending and receiving signals from the environment (Tedlock 1992:133). The sensation felt in the blood from *coyopa* is likened to sheet-lightning which occurs in Guatemala during the dry season and brightens up the sky in majestic displays of white flashes without striking the ground. *K'iche* and *Yucatec* Maya diviner-shamans use this ability when locating diseases, and they experience flashes in their blood when passing a crystal over a patient's ill body parts (Tedlock 1992, for Yucatan see Sosa 1985).

¹⁷ In Tinamit, the diviner-curer gets the calling through dreaming, illness or finding powerful objects such as jade, quartz, silver, or obsidian which are said to be left by lightning (Marshall 1986:190).

White and brown cotton, in combination with red and purple, contain much power and are mostly used in ceremonial cloth. Cloth with these colours is worn by both male and female religious officials who contain much *poder* in their bodies. Juana explained that women's ceremonial *huipiles* are longer than everyday *huipiles* and they are worn hanging over the skirt and sometimes reaching down to the knee. The colour of women's ceremonial *huipiles* is more visible over a wider area since they are not tucked into the skirt. Instead they are worn on top of the skirt like the pre-Columbian *huipiles*. Most ceremonial *huipiles* are also less decorated than everyday *huipiles* because less decoration is associated with the look of ancestral cloth. Ceremonial *huipiles* are thus more potent than everyday *huipiles* because they are larger in size and free flowing. This allows the *poder* of white or brown colour to spread over a bigger area and the free flow of the ceremonial *huipil* does not restrict the movement of *poder* over the body.

Reds, fluids, and excessive heat

Women have favoured the colour red since the introduction of colourfast thread to Guatemala. The popularity of red became widespread because a strong, colourfast red had been difficult to achieve previously with natural dyes that were not colourfast (Carlsen & Wenger 1991:369). Red is the colour which literally took over the colour schemes of clothing in the Guatemalan highlands in the 1960s (Deuss 1990, Mejia de Rodas & Miralbes de Polanco 1987, Miralbes de Polanco et al. 1990:145, Morrissey 1983:208-314, Rowe 1981). Weavers consider all shades of red very powerful, and red is valued for its ability to outshine all other colours. It is also thought to complement all other colours; however during weaving it cannot be placed too close to colour of low saturation. Red is associated with blood, fertility and sacrifice and the cardinal direction east which is the male domain of the rising sun.

Rosa's community is famous for the women's red and pink *huipiles*, and red is emphasized in different ways when weaving cloth (fig 2.4). There are three different types of *huipiles*. The everyday *huipil* is pink-red with red patterns, or white with red, blue and black patterns. The ceremonial *huipil* is pink red with red patterns, but it is not as lavishly patterned as the everyday red *huipil*. Non-colourfast red silk thread is used for weaving patterns on white cotton, and when the cloth is complete, it is soaked in water, which makes the red silk run into the white ground-weave and stain it pink. Rosa explained that the pink-red ground weave is what distinguishes her community *huipiles* and exhibits the women's strong identity because the pinkish red *huipil* with red patterns is

unique in Guatemala. The red in their *huipiles* is extremely important because people throughout Guatemala will know that this is where they come from.

Isabel and Eva also favoured red in their clothes. Isabel wore a red huipil with purple patterns or a red huipil with patterns in green, blue, and yellow. Eva wore a red and white striped *huipil* with multicoloured patterns. In *K'iche* and *K'akchikel* the word for red is *k'ak*, and it also means fire or heat, so the cloth is considered to be heated up and to accumulate *poder* from the red thread. In Ana's community, red is described as a blazing trail of fire in a *huipil*. Red is considered such a powerful colour that weavers in Lucia's neighbouring villages think of red thread as the flowing blood of the ancestors. Lucia described this as "when they look at the red they see the red flowing blood of their ancestors and what they had to go through since foreigners came to their land."

Red is commonly associated with the soul and blood in Maya communities because the red colour of blood is considered to give the soul heat (power) which results in a healthy, ruddy complexion (Watanabe 1984:99, 1989:267, Holland 1962:135). Red is considered a powerful colour that "do work" in Tecpan, while in Patzun and Patzicia, red is thought to go well with Maya skin so that the skin looks bright and healthy (Hendrickson 1986:179-80). The Nobel Prize winner *K'iche* Maya Rigoberta Menchu remarked that red gives off heat and fire, and it is linked to the sun, God and the heart of everything in the universe (Menchu Tum 1984:14). Different shades of red are woven as a community-defining wide band in the *huipiles* of Poaquil and Comalapa (Kellman 1991:26). In Colotenango, red dominates the whole surface of the cloth, and weavers have specific terms for red *huipil*, red *tzute* and red pattern (Mejia de Rodas & de Polanco 1987:126-128).

Sacredness and the potential destructive power of red are evident in the forbidden use of red maize for food. Juana explained that if red maize is processed and digested it will cause destruction and death in the family. Red maize is fine to use for religious purposes, but it should not be modified in any way. Red maize is an anomaly since it reproduces itself from black maize cobs and because of this it cannot be planted normally, and therefore it is highly valued. In Coban, *K'ekchi* Maya who induce fright in others are described as having a red spirit, and redness is associated with negativity, witchcraft and hotness (Bringhurst 1986:56).¹⁸ The strength of red enables it to be used as a

¹⁸ Comparatively, the Mexican Maya of Zinacantan use red as the link between precious materials and symbolic actions. Red geraniums are used in rituals because of their durability and they are connected to sight as the flowering eyes of the Gods (Laughlin 1962:124-130). The red stripes in the shirt, *panuelo*, of men appear like flowing blood and are called flowers (Laughlin 1962:130). Here, the ritual use of strong red by the shaman is

protective device against the evil eye and evil spirits, particularly for babies who are more prone to be affected by this because they contain less power in the body (Hendrickson 1986:119, Tedlock 1991:181).

Metallics

The introduction of metallic threads, *bricho*, to Guatemala has heightened the emphasis on brilliance in Maya cloth. Hendrickson reports that metallic thread is important in reflecting light in Guatemalan Maya cloth, and considered the ultimate in capturing sheen (Hendrickson 1986:180-83). Eva explained that weavers from her village like to use the glittering threads to accentuate sheen in their cloth. metallic threads are also considered to heat up the cloth because of their sparkly qualities, which is comparable to burning fire. In Santa Catarina Palopo, women's bright blue-green *huipiles*, skirts and hair bands are interwoven with metallic threads and capture the sun in flashes of light, and they are thought to repeat the glittering surface of Lake Atitlan (fig 2.10). In other villages such as Solola, brightness of cloth is emphasised by using shiny and metallic thread (Mayen de Castellanos 1986:55-56,129). Here the pink-red *huipiles* of women and the belts and trousers of men are brocaded with animals, plants and abstract patterns in metallic pink, gold, silver, turquoise, blue, and green threads (fig 2.11). In Zunil metallic threads are popular (Miralbes de Polanco et al. 1990:60) and in Poaquil women delight in metallic thread (Kellman 1991:202). Belts from Almolonga are interwoven with *bricho* in stunning geometric patterns (fig 2.12).

Black, death and dark light

The richness of its pigmentation and its opaque quality makes black a colour imbued with *poder*. Black is considered to be the colour of the west, and stands for death and the suffering of the Maya people; it is the female domain and the site of sunset. Black is used by weavers to enhance the effect of other colours, because it is considered to bring out the best in them. Black is valued because of its link with Maya hair and eyes, and is thought to possess a different form of sheen, such as dark light, which is also favoured in dark shiny surfaces or

replicated in textiles, flowers and blood (Buresch 1980). In Taj, Campeche, Mexico, red flowers and red food are given to the dead, and blood is offered in rituals where red is closely associated with the rising sun (Faust 1988:241, 389).

substances such as obsidian and Coca-Cola.¹⁹ However, black should be used sparingly because of its connotation of death and the suffering of Maya ancestors. Lucia explained that "... black represents the suffering of the ancestors because everything was devoid of light when the ancestors suffered with the arrival of the white man." The potency of black is thus two-fold, as protective dark light and as material of suffering.

It is usually only the lower body of women which is wrapped in black cloth. Because the abdomen is associated with reproduction and heat, it has to be concealed from harmful influences, and black is regarded as a protective colour for women. In Isabel's and Rosa's communities, women's black skirts have an embroidered cross across the skirt which represents the cardinal directions. Isabel explained that wearing the black skirt with the colourful cross is perceived as wearing the cardinal directions and, in effect, the whole Maya world on the lower half of your body (fig 2.13). Thus women's reproductive parts are at the same time concealed by the black cloth and strengthened by wearing the cardinal cross, e.g. the world on your hips.

Black is often used by religious Maya men; since they possess much *poder*, they are able to handle the potent black colour. The men's religious costume in Chichicastenango consists of black trousers and can only be worn by Maya calendar keepers. The black protects the man during his ritual performance, which includes handling of potent substances which are regarded as very hot, such as incense, flowers and alcohol. Black is often combined with red during rituals because black and red are considered to work together in enhancing and protecting the outcome of the rituals.

Blue, green, yellow

The domination of red in Maya cloth has been recently challenged by weavers' use of green and blue, and more recently yellow. Green and blue are associated with water, prosperity, and the meeting point of the cardinal directions. Yellow is the cardinal direction south and associated with fertility and health. In Santa Catarina Palopo, the women wore heavily brocaded red *huipiles* during the 1960s to the early 1980s. In the mid-1980s a weaver in the village began to insert more blue and green in the weave and this was taken up by another weaver, then another weaver, and yet another weaver, until the whole village

¹⁹ Saunders (2001) has written on the reflective values of dark light. My informants said that the use of coca-cola in contemporary rituals is due to the fizziness of carbonated liquid which equates to *poder*.

began to weave blue green *huipiles*. These *huipiles* are strikingly woven in blue and green, brocaded in layers of geometric patterns which are visually difficult to disentangle (figs 2.5-2.7). In Chajul, women also wore red *huipiles* until a weaver decided to insert green into the weave, and this gradually resulted in a preference towards green (figs 2.8-2.9). In Nahuala, the amazing pink-red *huipiles* have recently received competition from turquoise and yellow *huipiles*.

Lucia explained that the colours of her community's clothing are associated with the colours of the surrounding landscape, the dramatic green volcano San Pedro, the deep blue Lake Atitlan and the clear blue sky above. The green skirt women wear is the fertile slopes of the volcano, the blue huipil is the waters of the Lake Atitlan and the light blue hair band is the sky above. The body of women is thought of as the lake and their head as the sky. She explained that in her village, the women no longer preferred red because it was associated with blood which brought back a lot of memories of the civil war and death. Ana explained that green and blue are the colours of water, and depending on the shade of green or blue, they represent different bodies of water, still standing, flowing, or falling as rain. This may suggest the material is representing a cognitive shift from the violent, bloody red towards more peaceful green-blue bodily states.

CLOTHES, COLOURS AND THE INDIVIDUAL

Strengthening the skin: cloth and food

The gradual transformation from possessing a cold, weak body at birth, to possessing an increasingly hot and more powerful bodily state as life progresses is described by the informants as arduous. Cloth eases the process of bodily maturation because it is conceived of as fibrous matter which is attached to the body and removed when it no longer serves its purpose. However, it is not only cloth which is seen to affect the transformation of the body. During the life cycle, a Maya individual is exposed to several substances that contain different degrees of strength/heat or weakness/coldness such as food, drink, trees, plants and animals. This thermal concept was first observed by Spanish explorers Martin de Palomar and Antonio Gaspar Xiu in 1579 (cf Villa Rojas & Redfield 1962:372) and it continues to be applicable in contemporary Maya communities

(Annis 1987, Neuenswander & Souder 1977, Marshall 1986, Orellana 1999, Villas Rojas 1980, Vogt 1976).²⁰

Of these substances, food is integral to the growth of a human being. Because of the hot and cold qualities of food, intake has to be controlled so that the body is not exposed to harmful substances. Hot foods such as alcohol, chilli, chocolate, beef and garlic are thought to raise the temperature of the body. Colder food such as vegetables and rice cool down the body, and therefore they have to be complemented with hotter food. Green and white foods are generally thought of as cold, such as cabbage, green beans, pears, milk, white sugar and white beans whereas yellow, red and black foods, such as red and black beans, red meat, and chilli, are considered hot. The presence of white, yellow, red and black maize is also linked to the cardinal directions, which were established by the ancestors. Yellow maize is eaten at death, birth, and with the daily meal. White and black maize are eaten at fiestas. Red tortillas are never eaten; this would be hazardous for the body.²¹

The materiality of the Maya body is thus constituted internally by the consumption of certain foods and externally by wearing specifically coloured clothes. Colours are important during the transitional phases of life because of the effect brightness has on positive bodily states such as fertility, purity and general well-being.²² The connectivity of cloth and food with positive bodily states is derived from their strong and hot qualities which are associated with purity.²³ The colours of Maya clothes are described as being bright, pure and

²⁰ Neuenswander and Souder (1977: 107-108) list how *K'iche* Maya classify food into hot and cold depending on age, sex, location, colour, domestication and flavour. Marshall (1986: 125) reports that hot and cold food are ambiguous to classify, but presents a list of foods which are regarded as heating or cooling down the body.

²¹ Fischer (2003:125-127) also reports that the use of maize in Tecpan, Guatemala is separated by colours.

²² The preference for brightly coloured clothing parallels positive bodily states and follows a general Amerindian aesthetic of brightness. Saunders has argued for brilliance as a concept unified patterns of thought in past and contemporary Amerindian groups (1998, 1999, 2001, 2002). Important works by Helms (1996) and Reichel-Dolmatoff (1978, 1978a) discuss the importance of Amerindian preference for shiny bright objects. Furst (1998) suggests that bright light in post-contact times indicated a divine presence during the conversion of Indians to Catholicism.

²³ The ambiguity in the classification of materials reveals their potency. Consider Renne's (1991) study of white cloth in Bunu society where white is associated with both good and bad things, and in this way organises society. Bolton's (2001) fieldwork in Vanuatu shows

real, not artificial, or made with machines like western clothing. Factory made clothing cannot possess the same qualities as hand or foot-loomed cloth. Purity of hand and foot-loomed cloth is categorically compared to agricultural produce that has been grown without pesticides, e.g. without the help of foreign technology. These products are described as pure and having the right colour and scent. Isabel described the honey her husband made as pure yellow, sweet, fragrant, and unspoilt by chemicals. Ana talked about her coffee beans as pure unspoilt coffee with a beautiful dark brown colour and proper smell, as opposed to the processed Nescafe that is considered very bad, tasteless and nicknamed *cafe gringo*. Handmade tortillas are also regarded as pure and potent in opposition to the tortillas made by a machine.

Purity of materials is enhanced by cleanliness. Recently harvested and washed food is regarded as pure, bright and beneficial for consumption, whereas unwashed and old foods, including pre-packed meals, are thought to be bad and too cold for consumption. Similarly, both Maya women and men consider their hair and skin beautiful when it is newly washed and when the sun reflects the blue black tones of hair and the gold of the skin. Newly washed cloth is considered to radiate strength and purity because through the washing process the clothes become renewed and the colours are radiant again.²⁴

Weavers regard making food and weaving cloth as parallel activities because maize and threads both have to be transformed into other materials, maize into tortilla dough and thread into cloth before they can be used.²⁵ Juana explained that food has a special link with cloth as a substance since the process of weaving is in many ways analogous to making cloth-food for the body. The weft is regarded as food for the warps, and a completed cloth is thought of as food

how the categorical association of certain food and textiles flow into each other because of their potent character.

²⁴ Clothes are washed in the morning so that they can dry quickly by catching the heat from the sun until noon, and can be worn in the afternoon again after the daily bath. During the washing process the cloth is beaten against the rocks or the *pila* and scrubbed vigorously to get all the dirt off and then rinsed many times until the detergent has been washed away. The detergent is usually in the form of a soap bar which is scrubbed against the clothes. When communities are too far away from a natural water source the clothes are washed in the home in a special wash basin, *pila*, or in communal washing places. They are scrubbed vigorously against the cement *pila*, then rinsed many times until they are hung in the sun to dry to become as new again.

²⁵ Bolton (2001) has noted a cognitive link between cloth and food in Vanuatu, and how the production assigns women a specific status.

for the body. Of the foods, maize is likened to cloth as material. Maize has an important place in Maya thought as the stuff of life, since the ancestral Maya were created from a mixture of maize dough and blood. The transformation of thread into cloth is likened to the transformation of maize into tortillas. The act of weaving cloth itself is like the act of grinding maize kernels into flour, which is made into a dough and subsequently shaped into tortillas.

Juana demonstrated the backwards and forwards rocking motion of grinding maize using the *mano* and *metate* and explained that these movements are similar to the motion of weaving cloth. The shaping of the tortilla itself is likened to the shaping of cloth on the body. A completed cloth is regarded as sustenance as it can be sold for cash, so that the weaver can buy food and further weaving materials to weave more cloth. Cloth as sustenance enters the life-cycles of both weaver and wearer, or as Juana said "cloth gives us money, and gives our body food. We have to continue weaving forever, we can't stop..."²⁶

Binding the skin

One of the most distinctive features of Maya clothing is that it is tied, bound and folded around the body. To wear Maya clothes presumes that a person knows what to wear and when to wear it, but also that a person knows *how* to wear the clothing. When a Maya person begins to dress in Maya clothes they are taught that the clothes have to be worn properly, otherwise they will not be effective. By demonstrating different techniques of folding, tying and binding, mothers teach their daughters and fathers teach their sons how to put their clothes on properly. The folding of the *huipil*, the wrapping of the skirt and the tying of the belt has to be done in a systematic manner so that the body is properly bound.

When a woman gets dressed she will start putting on the *huipil* by pulling the head through the hole and then inserting the arms through the narrow holes. The *huipil* needs to be pulled straight down so that it does not bulge anywhere. After this the skirt cloth is wrapped around the body. The top end of the skirt should be placed 10 cm above the waist; this leaves enough material for the belt to be wrapped around it. The skirt needs to be wrapped tightly around the lower body because it needs to emphasise the buttocks, and the skirt cannot fall off or stretch in form when a woman is walking. When the skirt has been placed in its right place, the belt is wrapped around the waist several times to ensure that it keeps the skirt in place throughout the daily activities. To lose one's skirt is

²⁶ Monaghan (1995) has shown how Mixtec households in Oaxaca, Mexico, are formed through clothing and feeding one another.

regarded as a huge embarrassment because this would reveal the procreative part of the female body.

Entwistle (2001:34-38) points out that body and dress are a crucial arena for the performance and articulation of identities. She uses Mauss' (1979) argument of how the physical body is shaped by culture and how these have potential to understand the situated nature of the dressed body. Techniques of the body are not natural, but they are the products of the particular ways of being in the body which are culturally bound. Ways of walking, moving, making a fist, are different for men and women because in the making of masculine and feminine, culture inscribes the bodies of men and women with different physical capabilities. Thus, looking at the materiality of cloth and how it is draped on the body can reveal how cloth shapes women and men in Maya communities.

Weavers explained that the ideal female body should be reminiscent of an hour-glass shape. The chest should be high, voluminous and reminiscent of mountains, and this is the most decorated part of the *huipil*. The waist is emphasised with a tightly wrapped belt to accentuate the hour glass shape, and the skirt has to be wrapped tightly around the lower part of the body. The body is wrapped and encased in the clothing, which is described by the weavers as protective yet constricting. Ana explained that the skirt should be wrapped tightly because it should constrict women's bodily movement so that women can't take long steps when walking. This ensures that women can only take short steps and they have to walk behind the men who take longer steps.²⁷ The densely woven material is also described as heavy to wear, and weavers say it feels as if the clothing is weighing them down and restricting their physical movements.

It is not only clothes that need to be tied and folded in specific ways. The fibrous texture of hair is likened to thread and it has to be bound in specific ways because hair possesses much *poder* due to its black shiny qualities. Hair is often used in love offerings or curses and therefore hair has to be taken care of properly. Women's hair is bound in different ways according to social status. Young unmarried girls are allowed to have their hair free flowing because they are not yet attached to any man. When engaged or attached to a man, women should wear their hair in a ponytail. Married women start wearing their hair in a plait because they should suppress their attractiveness. Elderly, widowed, or divorced women, can wear their hair in two plaits.

²⁷ The material aspect of fashion as constricting, e.g. corsetry has only recently been noted in fashion studies (Woodward 2002, Summers 2001).

Maya men's clothes also bind the individual together. In the communities where men wear Maya clothes, they explained that the shirt needs to be straight and wrinkle free, the trousers have to be well-fitting, but not too tight as this may reveal too much of their male potency. The *rodillera* cloth should be wrapped round the waist properly but not in as tightly as the women's skirt, because men are allowed to take longer steps than women. Even if most Maya men are no longer wearing Maya dress, they may wear a small cloth item which is associated with being Maya. This may be a handkerchief, wristband, shoulder bag or a bandanna.

It is not only the body which is bound in cloth; precious objects are wrapped or covered in specific coloured cloth which simultaneously contains and enhances their potency. In pre-Columbian Maya art, bundles of cloth are depicted as round shapes with prominent knots and they may have served a transitional function in rituals during which they were unfolded to reveal important contents (Taube & Miller 1993:47-48, 119). Contemporary Maya priests and priestesses hide and keep their ritual objects in bundles of specifically coloured cloth, which are unfolded at the necessary time (Prechtel 1999).²⁸ Precious materials, such as food and ritual implements are wrapped in specific cloth, *servilletas*, in order to contain their power before they are unfolded and exposed. Similarly, weaving equipment is kept wrapped up in cloth when it is not used, only to be unfolded when the weaving process begins. Weavers maintained that it is important to keep the weaving equipment covered because this will protect it and keep it together. Some of the cloths used for wrapping weaving materials were inherited from the weavers' mothers and grandmothers.

Unbinding the skin: pale, dark and dull

To unbind Maya cloth is to expose the body to danger from harmful occurrences such as cold winds that enter the body; the powerful gaze of individuals which drains the energy from a weaker person; or from fright, either intentionally or unintentionally caused. To wear western clothes or to consume food which is artificially made is also regarded as cooling down the body because non-Maya conduct is undertaken and the connection to the ancestors is weakened. All of these instances induce a negative, weak, cool, state of the body and can lead to

²⁸ In Yucatan, important ceremonies are performed at equinoxes and solstices, which are referred to as *caan tab*, tying of the sky (Klein 1982:21).

susto, soul loss.²⁹ *Susto* is a bodily state which makes the afflicted person fragile, weak and eventually ill. Because a part of the soul is lost, the person needs to recover it quickly. Otherwise the body can cool down to such an extent that the person falls very ill and eventually dies. Informants described cases in which persons had fallen ill after they had stopped wearing Maya clothing.³⁰ The weak bodily state contributes to an elevated state of anxiety because when a person does not want to wear Maya dress, they are overcome with a feeling of doing something wrong, because they are not honouring the ancestors.

When Juana's aunt fell ill, her illness was explained as the consequence of not taking great care to wear the right clothes. The aunt's illness was cured by her wearing strongly saturated colours such as deep red, bright blue, green, white and black. Additionally, the consumption of food with much *poder* was advised, such as coffee, chilli and lemons, so that her internal body heat could be increased. Ana told how a friend of hers had stopped wearing clothes "... when she stopped wearing our colours she got ill, her body was not powerful enough to cope without them." Her body was left open to attacks from harmful powers that she could not shield herself from when she was wearing western clothes. Ana explained a more horrific reason for soul loss in the forceful removal of women's clothes by men. This leaves the women bare and unprotected from the male gaze and touch, literally leaving the women in a soulless state, which may take several months to recover from.³¹

Coolness of the body and pale colours are connected because of their lack of heat. Cool, pale things are not good for an individual because they don't raise the *poder* of the body. Weavers likened the pale colours of thread to the pale colours of the eclipsed sun, the moon and dark waters. Weavers explained that pale colours are linked to Maya women because women are associated with the

²⁹ Because the soul is loosely attached to the body, it can be easily lost through fright, illness or psychophagy, eating of souls; this is ethnographically reported as *susto* (Greenberg 1984, Rubel et. Al 1984, Trotter 1982, Weller et al. 2002). The Maya body in Guatemala is conceptualised as fragile due to 500 years of Spanish colonisation and the recent 36 year long civil war which ended in December 1996 (cf Nelson 1999). Maya cultural ideas of the body as fragile and fragmented and easily disturbed and distributed fall within the general Amerindian concept of bodies (Luciani 2001).

³⁰ Fischer (2003: 89) tells the story of a girl who stopped wearing Maya clothes and got ill.

³¹ Accounts of horrific violation of Maya women during the civil war describes forceful removal of dress and subsequent rape and death (REMHI 1999:73-85). The military targeted Maya women because they knew that by terrorising and tarnishing their sense of self as mothers by sexual assault they were able to take the women's power away.

night, the moon, the earth and the wet season, in opposition to men, who are associated with the sun, day and the dry season (Earle 1986, Gossen 1974, Tedlock 1992). Because women are associated with pale colours they are able to manipulate this knowledge when weaving cloth in order to weave more efficacious cloth. The moon, in comparison to the sun, with its colder and duller sheen, is mythologically associated with betrayal, gossip, and sexual liaisons with the sun. During full moon, weavers living by Lake Atitlan talked about the amazing sheen of the moon, which was reflected in the water. But the weavers remarked that moonshine is thought to be dangerous because the moon has a malevolent side to her. Isabel (translation mine):

The moon can be evil. The moon used to be as shiny as the sun, but once the moon told the sun (her brother or husband) that humans had been disobedient to their ancestors. The moon said that people had not honoured the ancestors with offerings. The sun got angry hearing this and this caused the first eclipse of the sun. But when the sun found out that the moon had been lying to him, he decided to take her sheen away. This is why the moon is matt and the sun is shiny.

Solar eclipses are dangerous because of the lack of nourishing heat from the sun, but equally lunar eclipses are dangerous because of lack of the protective light of the moon because of the moon's association with women and fertility (Najera Coronado 1995).³² Pregnant women should not be exposed to lunar eclipses because this can cause deformities to the child, and red should be worn as a protective colour against the cold of the eclipse (Greenberg 1986:317, Najera Coronado 1995:324-325). Similarly, the moon's dark phase in the lunar cycle affects planting, sexual activities and the cutting of trees, which all cease in Momostenango during the lack of moonlight (Tedlock 1991:181). In Chamula, Mexico, maize is not planted when there is a lack of moonlight, because seeds will not germinate (Gossen 1970:111, Guiteras-Holmes 1961:43,232).

Dull colours of clothing are also associated with the negativity associated with dark waters.³³ Water is women's domain, and weavers living on the shores of

³² Fischer (2003: 125-127) reports that in Tecpan, the maize seeds are planted at the last full moon before the rains begin; the full moon is thought to exert a pull on the seeds and help it grow out from the ground, not unlike female fecundity.

³³ Houston and Taube (2000:282-284) point out the importance of bright light and dark light as polarized elements in pre-Columbian Maya iconography. Marshall (1986:126-27) tells how the *K'iche* Maya in Tinamit, Guatemala, associate the sun with heating up the body and water with cooling down the body. Hanks (1990:88-93) describes how in Yucatan a Maya person's body has *k'`iinil*, heat of its own. The heat derives ultimately from the sun, and must be held in balance to safeguard the balance of the individual. The

Lake Atitlan described how the changing surface of the lake affects the atmosphere of the community and its inhabitants. When the surface of the water is dark or cloudy, this predicts a storm, particularly in the rainy season, and this can result in an edgy atmosphere in the village. During the rainy season the water is colder, and the rain obscures visibility when travelling on the lake, making this journey dangerous. A sunny day, in contrast, creates bright light ripples on the surface of the water, resulting in a good day. At sunset, when the lake reflects the golden, pink and violet hues of the sky, it creates a sense of harmony.

Daily protection

Because of the protective measure of colours of clothing, the process of choosing what to wear is an important part in the daily formation of self-aesthetics. The female informants had several *huipiles*, skirts and belts from which they could compose their desired outfit. The combination of these items depended on the activities taking place during the day because the protective measure of clothes varies according to the activities undertaken. Clothing with more colour potency is worn when women leave the domestic sphere because they need to exhibit where they come from. Nicer clothing is chosen for activities that take place furthest from the home because certain standards of being well-dressed in public needs to be maintained. Because colours of dress show the woman's community origin, it is important that she wears her finest dress. If the women went to the local market, they did not dress as elaborately as if they were travelling to markets further afield because they had already established their community belonging.³⁴

If women stay at home all day, they do not wear one of their better outfits. They can wear pale colours inside the domestic sphere where there is less need to exhibit their identity and less need for protection from harmful influences. If women are expecting company, they dress up in colourful clothes even at home. Isabel usually wore clothes in bright strong colours and alternated between a dark red *huipil* with purple animals, a bright red *huipil* with animals brocaded in green, yellow and blue, both of these woven by herself, together with blue or

physical existence of the body links it to the larger natural world through shared elements and processes in the change of state in terms of heat, winds, dryness.

³⁴ Tarlo has shown how in India, clothing choices mark the home/public, urban/village spheres, and what it means to be as a person when having to change clothes according to place (Tarlo 1996).

black foot-loomed warp around skirts. After getting to know her a bit better, she relaxed her clothing rules when I came over, and if she was not expecting any other visitors, she dressed in a more worn huipil and an older skirt in paler colours. Ana always dressed up in fine brightly coloured *huipiles*; only once did I see her in a frayed *huipil* and skirt, and she apologised by saying that her other *huipiles* and skirts were in the wash. When she came to see me in the place where I was living at the time, she was wearing an even more elaborated *huipil* woven in bright colours and a matching dark blue skirt and multicoloured belt.

Weaker persons such as new-born babies and young children are particularly susceptible to attacks from outside, and they need to be shielded with specific colours. Children possess a weak bodily state because the child is a new being and it has not yet had time to develop any *poder* through socialisation. The insides are encased in a fragile shell of soft skin which needs to be protected. Because babies contain the least amount of *poder*, they have to be kept warm by wrapping them in a shawl which is usually woven by their mother, or another close female relative or friend. Wrapping the baby in a shawl will transfer heat to the newborn child through the materiality of densely woven cloth, and through the *poder* accumulated in the cloth when the shawl was woven. Even if western-style baby clothes are used to clothe Maya babies, they will be ultimately wrapped in Maya cloth to keep their *poder* from fluctuating. Eva's baby wore western baby clothes as the first layer on the body, but the outer layer of clothing was always a Maya shawl which was wrapped around the baby's body as a casing, which was materially and symbolically attaching the baby to the mother.

When the child grows, *poder* begins to accumulate in the body from life experience and socialization, and brighter-coloured clothing can begin to be worn on the body. Children usually wear miniature versions of community-specific clothing but children's clothing does not contain the same amount of bright colours and will have less intensity in graphic elaboration, than the adult clothing, which reduces the material efficacy of clothing. Even if at first glance the *huipiles* that small girls wear look like miniature versions of their mothers *huipiles*, there will be slight variation in colour and pattern which makes them less strong. Isabel's daughter wore *huipiles* in light pink, blue and green colours because she did not yet have as much *poder* in the body as her mother and therefore could not wear the bright colours Isabel wore. The same applies to small boys who wear Maya clothing; their dress will have slight variation in colour and patterns even if it looks similar to the adult men's dress. Boys wear small copies of the men's outfits and the colour schemes change with age, just like the colours of the clothing in Maya women's lifecycles. However in daily wear, boys more often dress in jeans and T-shirts whereas girls wear wrap-

around skirts and T-shirts because it is more practical and as some children said, more comfortable.

Staying at home, it was acceptable for younger girls to wear T-shirts with their skirts, or sometimes even shorts, if the weather was really hot. But it is not acceptable for the girls to go outside in western dress because this is considered to bring harm to the girls. If children refuse to wear Maya dress when going outside the home this results in them being reprimanded by their mothers. The women maintained that it is essential to wear Maya dress when socializing with other people because this is how to exhibit one's identity. When Isabel's daughter wanted to play in the street with her friends she did not want to wear her Maya clothes. She wanted to go out in her sweatpants and T-shirt that she wore when staying at home. Isabel told her straight away that this was unacceptable, but the daughter would not listen until Isabel physically removed the daughter's home clothes and dressed her in Maya clothes instead.

Attractiveness: fertility and sexuality

During puberty, the transformation of girls and boys into adults changes their ability to wear brighter coloured clothing, because they are accumulating more *poder* in their bodies through the ability to procreate. The materiality of bright colour is particularly relevant for Maya women because they are the majority of the Indian population wearing Maya clothes. Emphasis on brightness begins when girls reach puberty because they are able to wear stronger colours with the onset of menstruation. After this occasion, brilliance and sheen is emphasised and applied as an aesthetic ideal on the body, and a woman's shiny and brightly coloured skin, hair, eyes and teeth are considered to parallel the brightness and sheen of colourful cloth.³⁵

The skin of women should be shiny and smooth, evenly coloured and have no spots. Teeth should be glistening white and the addition of gold crowns to the front teeth is widely adopted in Guatemala for the wealthier Maya. Hair should be very shiny, thick and long, and the shiny black hair of the Maya women is often decorated with hair bands made from bright colours to contrast and bring out the black of the hair. The golden-coloured skin is accentuated with bright glass and silver jewellery, and occasionally skin is enhanced with the application of glitter gel.

³⁵ In Tecpan, thick black shiny hair without split ends, a clear skin and nice teeth are highly esteemed and pale, untanned skin should not be shown. Here, brilliance and shine are terms describing young women because they have shiny eyes and smooth hair, they are flowerlike (Hendrickson 1986:133, 194-96).

Ana explained that when a girl reaches her 15th birthday, *quinceaños*, she is considered to possess enough *poder* in her body to be considered an adult. Therefore she is expected to begin wearing Maya clothes full-time. This transition is marked by a celebration in which relatives and close friends partake to honour the girl in her initiation to adulthood. Specific food and drinks are served in her honour and she will be presented with a new Maya outfit from her relatives. The colours of the *huipil* and skirt a girl is given at her *quinceaños* will enhance her presence as a marriageable woman in the community, since she is expressing maturation. When Ana had her own *quinceaños* she was given a *huipil* which her aunt had woven and she explained that the colours were richer in saturation than the *huipiles* she wore before that occasion. Starting to wear her adulthood *huipil* made her feel good and she was proud of herself approaching this age.

Women's attractiveness after they start wearing adulthood *huipiles* signals their availability as wives and this is noticed by men in the community. Weavers' husbands explained that they like their wives, and the Maya women in general, to wear hand and foot-loomed bright coloured clothing because they think that women look exceedingly pretty in those clothes. "She is pretty when she wears that dress... women in Maya cloth are pretty..." Many men note how well-woven a woman's *huipil* is when he courts her because this is taken as a sign of a proper Maya woman who conducts everyday activities in the proper manner.

Men's thoughts about women in Maya clothes reveal how powerful the value of cloth is in constituting female personhood. Ana's nephew was in the process of marrying a woman who had stopped wearing Maya clothes and this caused a lot of frustration for him. He was feeling unsure about the whole arrangement and it was made worse by Ana's remarks that the woman was not a proper Maya woman because she had neglected the colours of the Maya. He lamented this many times, asking everyone in the family if he should marry her because she was not wearing Maya clothes, and if he did marry her would this mean that the marriage would fail because she was not wearing the proper forms of clothing.

In contrast to ethnographers describing men in Maya clothes as feminized, and ridiculed, almost like neutered males (Hendrickson 1995:89), the weavers I worked with had the opposite view. They think of men's inability to dress in Maya clothing as a joke. One weaver described Maya men in western dress as neutered men, incapable of performing sexual duty for their wives. This image is contrasted with the image of the attractive, sexy and virile man dressed in Maya clothes. Men's virility is paralleled by their ability to dress in Maya colours. Men's

potency as lovers is jokingly defined by the size of their *rodillera* which is taken off at night, thus revealing the naked flesh underneath. If a woman is married to a man who wears a *rodillera*, she will be subjected to a lot of jokes because the *rodillera* as a cloth is sexually potent as masculine. He may even be referred to as "the one with the *rodillera*" (Ana).

Weavers often complained that, unfortunately, men in Maya clothing are quite rare, but they knew about the communities in which men dressed in Maya clothes. These men are desired because they are so rare, and also because the women had heard that men in Maya clothes value women more highly than the ladonized Maya men in western dress. Ana remarked that there is only one man left in her village who wore Maya clothes. He had continued wearing the Maya men's shirt, knee length pants and sandals even when other men abandoned it during the civil war. Local women considered him a very strong man because he refused to wear western-style clothing.

Because of their scarcity, Maya men in Maya clothes are not only exotic to Maya women, but also to western women, who see the exotic handsome Indian man in Maya clothes as the perfect "other." Men in Maya clothes are used as a tourist attraction, e.g. in ceremonies performed for tourists. Maya weavers told stories of how Maya men wearing Maya clothes had seduced western women, and how this had led to successful marriages, the men being whisked off to other countries. Also, there were plenty of women seeking out Maya men in traditional dress, and seducing them. I was often asked would I like a man in Maya clothes. Replying positively to this resulted in much laughter and approval.

Maturation and marriage

Colour of cloth is important when kinship ties are established. When a man wants to marry a woman he may place a cloth that he owns into the back of a woman's *huipil*. When the girl finds out whose cloth it is, she can either return the cloth to the boy as a rejection or keep it, which signifies that she has agreed to marry him. When the marriage is agreed, the bride begins to weave a cloth for the mother-in-law. Upon completion, this cloth is inspected by the mother-in-law prior to marriage, because she can see from its quality, the colours and the tightness of the weave, if the bride is going to be a hard-working woman. The selection of colours for the cloth is crucial for the woman's successful relationship with the husband's family. Ana described how she had to weave a cloth for her mother-in-law. "... I knew which colours to use because I was taught by my mother who had the skills to combine the proper colours...I was lucky, she (the mother-in-law) liked the cloth, so I married..."

Entering marriage, or partnership with a man, a Maya woman can begin to wear even brighter-coloured clothing. This is because the woman has reached full adulthood, and is sexually active, thus she is accumulating more *poder* in her body from sexual interaction with her husband. In the cultural construction of personhood in Maya communities, women's bodily state is considered to possess less heat than men's. The exception is when the woman engages in sex, or is pregnant; then she is considered to possess much *poder* (Fischer 2001, Greenberg 1984, Hendrickson 1995).³⁶ When a woman gets married, her social status has changed to what is considered the ultimate goal in Maya communities; she is one of a pair. When Isabel got married, she started weaving and wearing even brighter-coloured clothing, because, being married, she had accumulated more *poder* and could wear these colours. Before she got married, she wore a light red *huipil* with multicoloured animals, but when she got married, she started wearing a deep red *huipil* with purple animal patterns.

A woman's bodily state changes when she is pregnant and she is considered overheated, having *mucho poder*. Being in such a strong bodily state, it is advisable that she wears brightly coloured clothing. This is necessary so that she shields herself from harmful encounters with other persons who possess more *poder* than she has. At the same time it is important that the pregnant woman's *poder* is contained from other, weaker persons because she can inflict illness on them. Eva explained that when she was pregnant, she had to wear not only a red *huipil* but also a red skirt, a red belt and a red shawl, because she was emanating a lot of *poder* from her body which could be harmful to other, weaker persons. By wearing red she was shielding her *poder* and at the same time showing her pregnant potency to other people who could choose not to be subjected to her heat.³⁷

After giving birth, women's bodies are in a weak and cold state because the birth process leaves the body drained of energy. To give birth is described as "she gives light," *ella da luz*. Because the mother has been carrying the growing

³⁶ The feminine body is a sexual body and women have not entirely been able to escape this association; women are still seen as located in the body whereas men are seen as transcending it (Entwistle 2001:53).

³⁷ Brett-Smith (1990) explains that with the African Dogon, the use of indigo is restricted to women because of its potency. Women of childbearing age wear indigo dyed cloth with white tie-dyed patterns because the colour combination symbolises the fertile womb of the woman. When the woman has passed childbearing age she begins to wear plain indigo dyed cloth as a statement of her survival from giving birth, because then she is strong enough to wear plain cloth.

baby inside her for nine months, the mother has accumulated growing *poder* inside her. At birth the transferral of the mother's *poder* to the new-born baby is conceptualised as light.³⁸ To counteract the loss of bodily heat when giving birth, women sometimes give birth in the *temascal*, or *tuj*, a Maya sauna or sweat bath. The warmth of the *temascal* is thought to accelerate the birth process and helps in keeping the women warm. The mother may also stay in the *temascal* for a few days afterwards with the new baby to keep them both warm. Women's postnatal cold bodily states have to be protected with the right coloured clothing. After Eva gave birth, she wanted to continue to wear red clothes because she felt protected and good wearing them. She also wrapped her baby in red cloth to enhance its potency. Other weavers explained that the colour of post natal cloth could also be blue or green, the importance is that the colour is highly saturated, e.g. that is a hot colour.

Elderly colours

Social status and dignity is exhibited in the persistence of wearing Maya clothes throughout life. Both women and men who continue to wear Maya clothes throughout life are regarded as very powerful persons. The oldest men are able to wear the most eccentric clothing with stronger colours than anyone else because their bodies contain more *poder* due to their life experience. Men who wear Maya clothes are also most likely be married to a weaver who is able to weave the strongest cloth for him. Colours of post-menopausal women's clothing are flamboyant because they have acquired the fullest amount of *poder* in their bodies through life-experience; thus they have earned the right to wear these strong colours.³⁹

Ortiz Gomez has outlined how the amount and shade of red vary in *Mam* Maya *huipiles* depending on the age and social status of women (Ortiz Gomez 1989:881). Young girls wear a white *huipil* which gradually gets red as they mature. When women marry they can begin to wear a bright red *huipil* and post-menopausal women can wear dark red *huipiles* because they have progressed from being in a cool state to an increasingly hot state through life experience. Ana explained that when she had reached menopause she was happy because she knew that now she could start wearing even brighter-coloured clothing,

³⁸ With the *Yucatec* Maya in Oxctuk, Mexico, an infant who shows quickness and awareness is said to have light in his or her eyes (Hanks 1990:88).

³⁹ For a Pacific perspective see Bolton (2003:134) on women's rights to wear specific colours.

because no one could tell her that she was not strong enough to wear the bright- coloured clothes she had wanted to wear for some time.

CONTESTED COLOURS

Too bright: ambivalence of Maya colours

The bodily transformation during puberty is described as scary because of the expectancy of starting to wear Maya clothes. Informants said that it is particularly difficult in contemporary Guatemala because of the contested nature of Maya clothing. During puberty, the ambivalence towards what to wear begins, because of arising interest in sexuality and women's awareness of what men think about them. Young women know that wearing Maya dress will mark them as obedient, and only interested in making food and weaving cloth. Therefore regional dress has become unwanted because some young women do not want to be associated with the concept of being "Maya" because they feel that this associates them with the imaginary role of a humble woman, working at home and dominated by her husband.

Many younger women want to break away from this mould, and some of them believe that to achieve liberation as women is to wear part Maya clothes, e.g. the Maya skirt together with a T-shirt. Eber and Rosenbaum (1993:177) report from Mexico that in contrast to tourists who prefer muted, naturally coloured dyes, indigenous women and girls prefer to weave with brightly coloured acrylic and cotton threads. They see the naturally dyed colours their grandmothers used as sad. The ratio of women wearing Maya clothes varies between communities, but in the communities furthest away from Guatemala City, Maya clothes are most prominent. In the communities closest to Guatemala City, the younger women are more reluctant to wear the colours of the Maya, while others felt they should abandon Maya clothes completely. Some girls explained that they dress in western clothes to attract boys because boys preferred girls in western clothes. The girls are also concerned that they had to wear western clothes to match and achieve the status Maya men have in Guatemala.

Ana's nieces were ambivalent as to what they should wear and when; they were torn between wearing western and Maya clothes. At home they were comfortable wearing western style clothes, e.g. shorts and T-shirts. When they

went to school they wore skirts and *huipiles*, or sometimes they combined the skirt with T-shirts. However, for the younger girl's first day to school after Christmas break, she wore a western style dress in shiny turquoise polyester, and remarked that she thought it was very pretty and that she could only wear it to special occasions. The older daughter was even more indecisive about what she should wear. She accompanied Ana on a visit to me once and she was dressed in Maya clothes, a beautiful blue, pink, green *huipil* which looked new and a nice dark blue skirt. But she did not seem so comfortable with it.

I had not seen her in complete Maya dress many times before; she usually wore T-shirts with the traditional wrap-around skirt. Ana told me she wanted the girl to wear Maya dress when they came to see me because it is better to wear traditional dress when leaving the house and going into town, because one has to show her Maya identity. Later the same day I was sitting in the park and bumped into the two girls, who were having an afternoon stroll in the park with a male relative. The older girl was not dressed in *tela Maya* anymore; she was wearing jeans and a T-shirt. When I remarked that she was not wearing her Maya clothes anymore she looked uncomfortable, and replied that she went back to the village and changed before coming back to town, because it was too hot to wear it today.

By rejecting Maya clothes, the younger women are rejecting the colours which define them as Maya, and this contradicts Maya perception of women's physical aesthetics of brilliance. Elder women fear that young women who reject wearing *huipiles* are rejecting the colours of their Maya ancestors and Maya culture as a whole. To have long, undyed hair is analogous to wearing Maya dress, and being a proper Maya woman. Dyeing, cutting and perming of hair is closely associated with *ladinas* and this act is thought to destroy the essence of hair. Ana explained "hair is dull when cut and permed, it does not shine anymore and it is not feminine." Maya women prefer to keep their hair straight and long and not cut it more often than necessary to keep it healthy looking. Hair modification and the adoption of western dress signify Maya women who have opted to stray away from their Maya identity, and the weavers describe these women as bad.⁴⁰

⁴⁰ Greene's study (2003) of a small town in Yucatan, Mexico shows how the development of international tourism on the Caribbean coast has drawn rural areas into global capitalist networks. This has resulted in women expressing their identifications with the traditional or the modern through dress. Older women wear the traditional white embroidered dress, *mestiza huipil*, associated with Maya ethnicity. Young women are changing their identities and refashioning gender through selective consumption of newly accessible commodities, particularly urban fashions. Greene points out that few young women wear long hair. Women used to wear long straight hair in a low bun affixed with a comb until the mid-1970s. But at present, this hairstyle marks rural origin, and hence poverty and Maya ethnicity. Only women who dress in the *huipiles*, the vast majority of them grandmothers,

Colour exposure: selective dress

Because the colour of Maya dress visually reveals community-bound identity, clothing continues to be imbued with anxieties following the civil war when colours of clothing were used as an identifying map for locating and eventually killing persons from specific communities. During the civil war, Maya women began to wear the clothes of other communities and western clothing to hide their identity. But this affected their sense of self, and many women were ashamed of wearing western dress because they felt a sense of loss in their personal dignity (Nelson 1999:138-39, REMHI 1999:49).⁴¹ Even after the end of the civil war some women explained that they did not want to wear the colours of their community because they did not want to reveal their origin anymore. Instead they wore *huipiles* and skirts from other communities because they decided to abandon all connotations of where they come from. One woman explained that she did not want to wear the village-specific clothes because she did not want to be known as a person from the village she lived in; she also confirmed she did not like the dress of her village. Instead she wore clothes from other villages which she thought were pretty, and with colours she liked, without being particularly concerned if they displayed her identity.

The frustration of what to wear and how to accentuate one's physical appearance in contemporary Guatemala is explained by Juana as an everyday stress factor because it is difficult to know how to dress to be able to integrate into the community.⁴² To overcome this frustration, Juana alternates by wearing western clothing and Maya dress because she said that sometimes it is better to not show too much of her Maya colours. Because Juana is one of the managers of a weaving-cooperative she feels she has to wear western clothing when

wear this hairstyle. Younger women consider the style old-fashioned and avoid it. Shorter, often permanently waved or curled (permed) hairstyles dominate the scene. Permed hair is just generally considered prettier. This has affected the hair donations to the Virgin because hair which is permed is an inappropriate gift.

⁴¹ Nelson (1999:138-39): "Many indigenous women said that they would rather be naked than wear western clothing. A friend told me that during the war she fled her village for Guatemala City, where she disguised herself by transvesting in ladino clothing. She was miserable and terrified and very lonely. But when she saw two friends from her village on the street, rather than run to greet them she hid out of shame because she felt so naked without her *traje*."

⁴² See Tseelon's (1997) and Woodward's (2005) studies on women, clothes and the difficulty in choosing what to wear.

dealing with ladino businessmen and women, because if she wore Maya clothes, they would not take her seriously. Juana wears Maya dress at special occasions, such as religious ceremonies, and family gatherings. She showed me photographs of herself in her village-specific Maya dress. She looked very beautiful wearing a black and red *huipil* with a black skirt, and with her hair tied up around her head with a head cloth. When I asked her why she did not wear Maya dress every day, because she looked very nice wearing this outfit, she replied "if I would wear this every day I would not get respect; the people would think I am an *indigena* and they would not respect me." ⁴³

Similarly, Ana's sister did not wear Maya clothes in her daily activities. Instead she opted for western-style polyester and viscose skirts and blouses in pale brown and beige colours. She explained that it is not practical for her to wear Maya clothes because she works as a housekeeper in Guatemala City. If she wears Maya clothes to work they would get dirty. She is also concerned that when wearing Maya clothes she is not respected by her employers. She dressed up in Maya clothes once, when she wanted to show me what she looked like in Maya dress, and she looked completely different; but she said that she felt strange and hot wearing the Maya clothes.

Most of the men in my fieldwork areas do not like to wear strong colours, or the Maya style of clothing. Instead they wear western jeans, T-shirts and chequered cotton or flannel shirts. Men are not expected to wear Maya clothes to the same extent as Maya women. Their preference for the neutral colours of western clothes is largely due to them thinking that the style and bright colours of Maya clothing are too strong to wear when going about in everyday situations. Men think that the bright colours are feminine and that they are the colours of women and therefore they think that Maya clothing looks wonderful on women, but not so good on themselves. They prefer western clothing because they consider it more practical to wear than Maya clothes in everyday working life. They also think that wearing western clothing enables them to become more accepted members of the Guatemalan society. This is particularly relevant when working closely with ladinos who have prejudices towards individuals wearing Maya dress. ⁴⁴

Eva's husband does not wear the distinctive male Maya clothes which are woven from red, pink and white cloth, and lavishly brocaded and embroidered. He

⁴³ Maya clothing in decline can function as a powerful medium for maintaining identity, as Harrison (1999) has suggested on the scarcity as identity, in which symbols of ethnic affiliation should be understood as "inalienable possession" (Weiner 1992) when analysing the symbolic dimensions of property and the exchange of goods.

explained that he does not want to be stared at by ladinos and tourists because of the colourful trousers and shirts. Once he wore the full Maya outfit to work but he was laughed at by his employers and co-workers. They told him that he “looked like a woman.” After this he stopped wearing his Maya outfit altogether and refused to take it out even for family occasions such as birthdays or weddings.

Conclusion

This chapter builds on previous research, which point out that the colour of clothing is crucial in the construction and maintenance of personhood in Guatemalan Maya communities (Hendrickson 1995, Kellman 1991). My research indicates that to pay attention to the colour of clothing can increase understanding of what constitutes Maya identity, an identity that is constantly in flux in Guatemala (Fischer 2001). Rather than using textual analyses that search for codes and meaning on a level akin to language (Hearne 1985, Morris & Meza 1980, Pancake 1991, Tedlock & Tedlock 1985), this chapter aims to demonstrate how cloth is perceived as efficacious material in constituting a person by drawing attention to the material propensities of coloured cloth.

The efficacy of Maya cloth is attributed to the qualities of colour which weavers categorise according to saturation, e.g. bright colours equal heat and strength, whereas pale colours equal cold and weakness. An examination of how bright- and pale-coloured cloth is used according to age and gender reveals that specific colours are valued because of their effective properties in the constitution of an individual in everyday life and during transitional stages in the life cycle. Bright colours emphasise bodily states of well-being and satisfaction, whereas pale colours are associated with danger, illness and weakness. Brightly coloured cloth shields the body from harmful influences and at the same time allows the body to contain the *poder* to keep the body in balance. Thus, the actual materiality of coloured cloth is considered to protect the individual in everyday proceedings.

To wear the right colours is important because Maya clothes are also associated with ancestral obligations. To wear Maya clothes means that the individual is behaving correctly, and this ensures the well-being of the individual, of his or her family, and of the community as a whole. The importance of the materiality of cloth in expressing Maya identity is supported and sustained by the fact that the use of synthetically dyed threads has not diminished the symbolic value of ancestral colours. The ancestors are said to favour synthetically dyed threads because the colours don't fade and thus the cloth stays efficacious longer.

⁴⁴ For a comparative view on Ecuador see Lentz (1995).

The attention paid to colour in Maya cloth expressed in linguistic terminology which is embedded with rich symbolic meaning. However, in weaving cloth, it is the actual saturation of colours which determines how effective the cloth will be in the making of a person. Thus colour is capable of possessing meaning because of its material qualities such as saturation, e.g. degree of brightness or paleness (MacLaury 1996), rather than colour being a symbol of something else.

This chapter also highlights that cloth and food are linked in Maya perception to the construction of a person. Cloth is constructed from fibrous matter that is regarded as binding together a person, whereas food is regarded as internally building up a person. The colours of cloth and food are also linked; e.g., brightly coloured cloth as well as foods are regarded as hot, whereas pale-coloured cloth and foods are regarded as cold. Bright colours of threads and foods are also connected to the idea of purity, which is defined by sheen. Thus, in the construction of a Maya individual, brightness, heat, and purity of cloth and foods are connected. This reveals that the value of things can transcend western categories, and that the material qualities of objects have the potential to contribute to the construction of a person (Bolton 2001, Norris 2004).

Additionally, weavers stressed the importance of the materiality of Maya cloth in defining personhood by comparing Maya cloth to western clothing. The weavers contrast the natural and real qualities of Maya cloth with the artificial nature of factory-made western clothing. Because Maya weavers regard western clothes as artificial, it makes it possible for a Maya person to hide one's identity when dressed in western clothes, since the materiality of such clothing is regarded as non-Maya. Maya cloth is so materially rich in expressing personhood that the mere wearing of it can cause anxieties, as the abandonment of Maya clothes during the civil war showed (REMHI 1999:48-49). In the present, the materiality of Maya cloth means that Maya individuals continue to be subjected to prejudice, as in the aforementioned case of Nimatuj (2003). However, since the wearing of Maya cloth exhibits distinct Maya identity, this gives Maya women the freedom to move around Guatemala because to wear Maya clothes assigns them the status of being a "proper Maya woman." Wearing Maya clothing is also economically significant because it attracts wealth when women interact with other Maya persons, as well as ladinos and especially foreigners in the process of selling cloth.

By discussing the colours of Maya clothing, this chapter makes the point that the potency of cloth can only be revealed through its material aspects. In my research it was clearly stated by the weavers that it is the colours that measure the efficacy of cloth and that colours are integral to the constitution of Maya

identity. Maya cloth can thus no longer be seen superficially as the covering of a person and subjected to analysis only via semiotic parallels. Instead, cloth can also be seen as a dynamic material that reveals who a person is through analysis of cloth's material properties (Miller 2005).

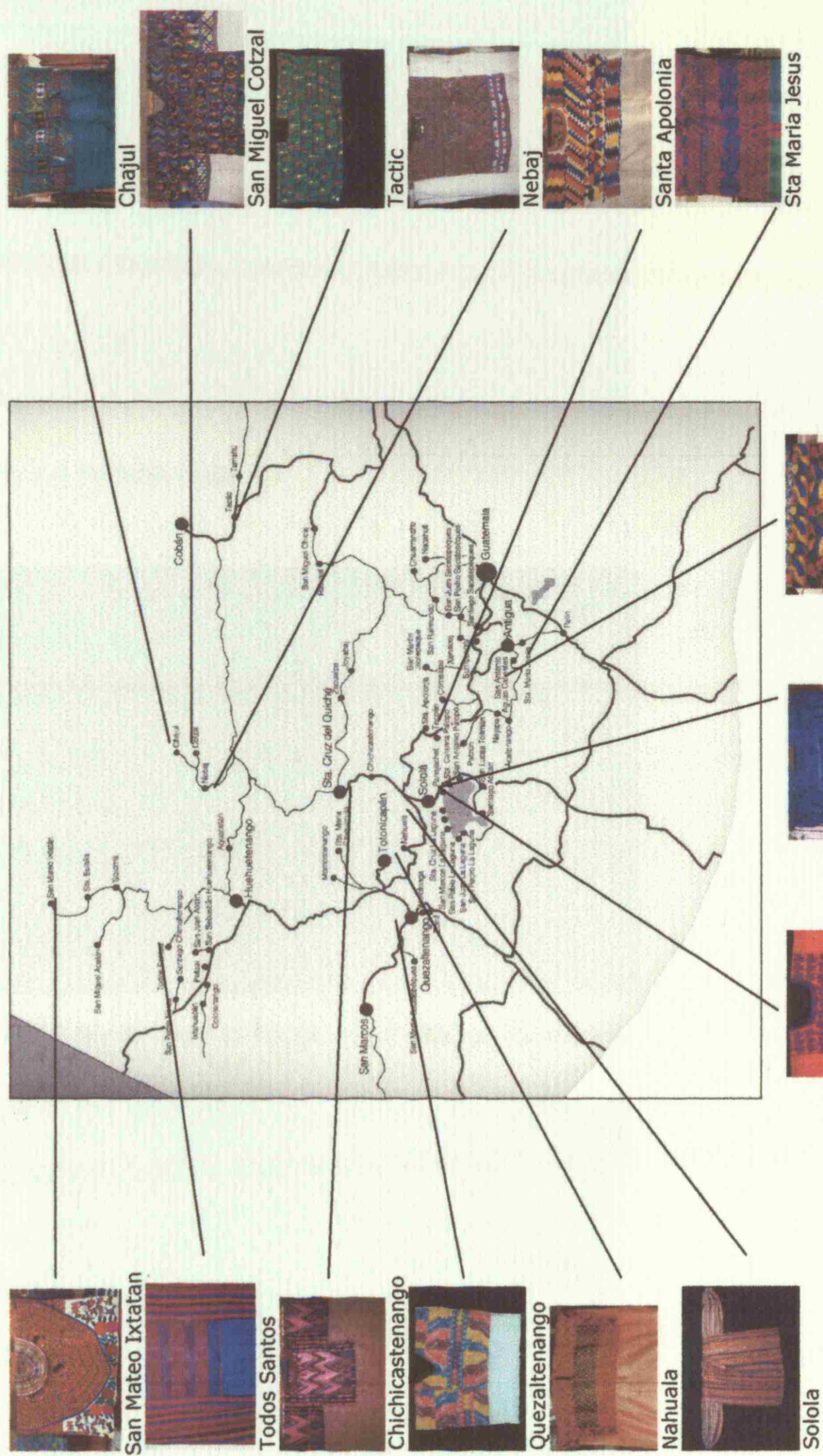


Fig 2.1 A selection of community variation in Guatemalan Maya clothing.



Fig 2.4 Nahuala *huipil*.

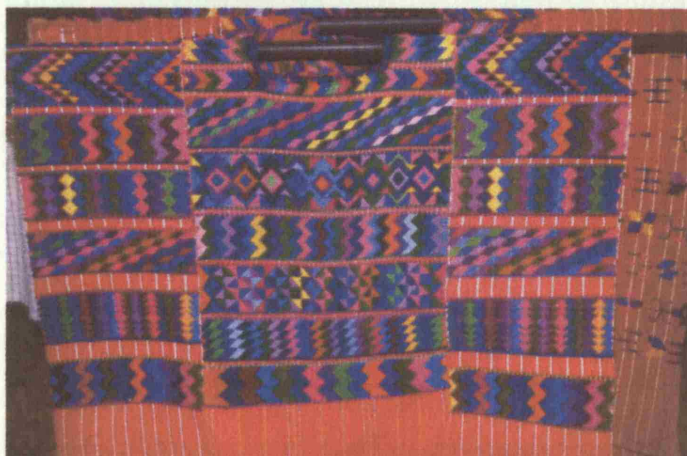


Fig 2.5 Santa Catarina Palopo *huipil* with red foundation.



Fig 2.6 Foundation colour is changing towards a bluer shade of red.



Fig 2.7 Foundation has changed to blue.

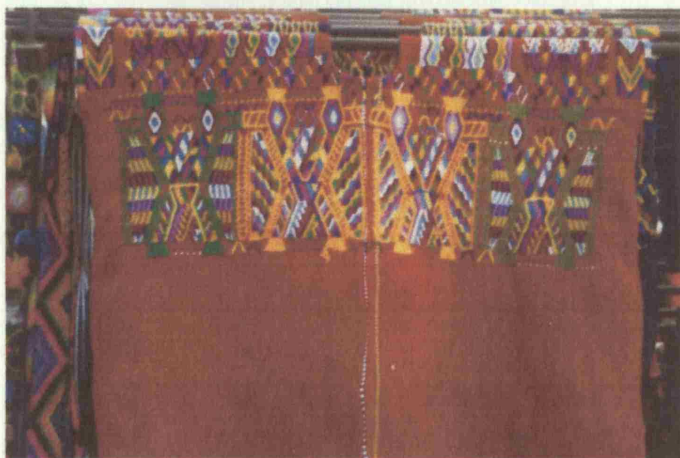


Fig 2.8 Chajul *huipil* with red foundation.



Fig 2.9 Foundation has changed to green.



Fig 2.10 Glitter scarf from Santa Catarina Palopo.



Fig 2.11 Detail of bird pattern of Solola *huipil* made with *bricho* and rayon.

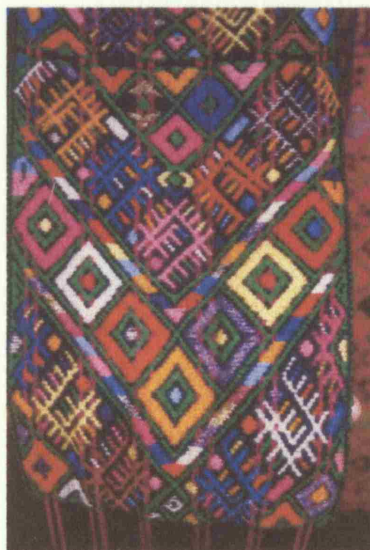


Fig 2.12 Almolonga belt.

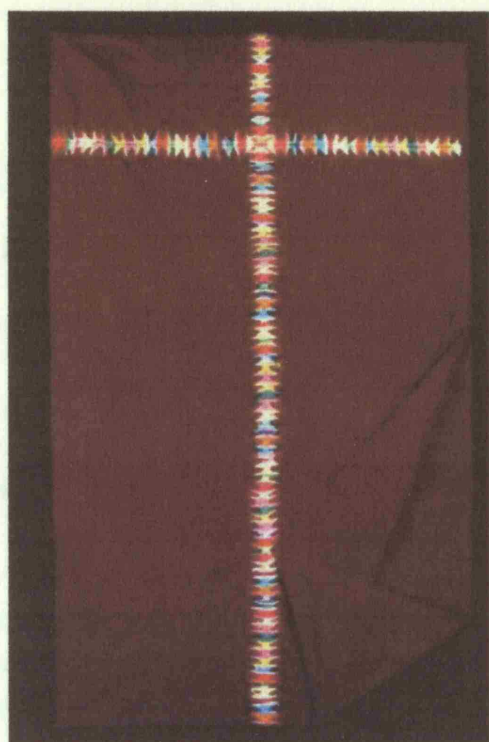


Fig 2.13 Detail of skirt with embroidered cardinal cross.

Chapter 3

ETHNOGRAPHY OF SKILL: LOOMS, THREADS AND BODY

Maya women and weaving skills

In Guatemala, backstrap and foot loomed cloth are two of the main sources of income for Maya weavers working independently and for weavers attached to a weaving co-operative. Both backstrap and foot loomed cloth are produced for two purposes in Guatemala: for the Maya themselves and for the tourist market. These two economies crosscut each other in making up weavers' income. How much money a weaver can make depends on her ability to weave cloth. It is possible to buy Maya cloth in every town and village in Guatemala, either directly from the weavers themselves, from artisan markets, or from middlemen who will endeavour to find specific cloth that the tourist or collector is looking for.

Maya cloth, and particularly cloth woven on the backstrap loom, is highly valued by tourists and collectors because the cloth is considered to embody authentic indigenous culture. Cloth woven on the backstrap loom is considered more genuine than cloth woven on the foot loom because the foot loom was introduced by the Spaniards in the colonial period, whereas the backstrap loom has been in use since pre-Columbian times. In contemporary Maya communities, the foot loom is regarded as the men's loom even if both men and women use it for weaving. However, the backstrap loom is mainly used by women in Guatemala, and to be able to weave on a backstrap loom is regarded as an important factor in the construction of a Maya woman's identity, both as a weaver and as a woman.

To be a skilful weaver implies that the woman is a patient, meticulous and organised person who has the ability to manipulate threads into cloth by using the backstrap loom. By extension, possessing these skills means that she has the ability to function well in the community as an organised, patient and hard -

working person.¹ The weavers I worked with talked about Maya women who possess weaving skills as “if a woman can weave, she is a good person, she knows how to behave in the community” and “weavers don’t behave badly, they have their cloth to think about.” Weavers apply these remarks when they talk about themselves as people. Because they are weavers, they feel that they are proper women who contribute not only to their families’ well being, but also to the community as a whole, by weaving and selling cloth.

To learn how to weave with the backstrap loom is a long process and includes several stages, all of which have to be learnt properly before embarking on the next stage.² For a Maya woman to become a successful weaver capable of weaving “proper” cloth, she has to undergo an apprenticeship with another more skilled weaver. “Proper” cloth is a term used by weavers to define tightly woven cloth which is knot-free and shows no faults in the interweaving of the weft and warp. Weaving apprenticeships are usually initiated when Maya girls are 5-7 years old, but they can start later in life if there is no skilled weaver in the family who can teach the girl to weave. It is usually the girl’s mother, grandmother, or older sister who begins to introduce the girl to weaving implements.³ This is done in order to find out if she has the potential to become a skilled weaver. The initial tasks may consist of winding thread into balls, and/or warping thread onto the warping board. These tasks are integral in finding out if the weaving novice is capable of weaving “proper” cloth.

A Maya weaver’s transition to adulthood is formulated and materialised through the activity of weaving and the handling of threads and weaving implements. The further a weaving novice advances in learning weaving skills, the more social knowledge she is acquiring from the interaction with her teacher. To approach the stage when very difficult patterns are learnt signals a time when

¹ This view is also applied to some extent to foreigners who have the patience to learn how to weave on the backstrap loom. Weavers frequently told stories of foreigners who came to Guatemala to learn how to weave, and who subsequently had no patience with the meticulous process and ended up throwing the tangled unfinished cloth in the bin, to the horror of their teachers.

² Technical studies documenting Maya weaving practices include Anderson (1978), Hecht (1989), O’Neale (1945), Sperlich and Sperlich (1980), Taber and Anderson (1975). Hendrickson (1995) and Kellman (1991) have made valuable contributions to understanding the aesthetic choices of Maya weaving practices.

³ Greenfield (2004) has conducted research with Maya weavers in Chiapas, Mexico and documented the changes in weaving apprenticeships. She found out that the mother-to-daughter apprenticeship has changed to a sister-to-sister or even friend-to-friend apprenticeship.

the novice may be ready to start weaving for herself. Cloth with specific patterns is given from mothers to daughters so that the daughters may continue to learn even after the mother has passed away. These cloths are hidden away, often folded in other cloth, to keep them away from curious gazes. Ana kept cloth from her mother hidden in a bundle and only showed parts of these when she wanted to show me a specific pattern. Rosa, who gladly sold a wide range of her cloths to everyone, was severely annoyed when I asked if the cloth with the *Gukumatz*, feathered serpent, pattern was for sale. She did eventually decide to part with it, but stated that it was only because her mother wanted me to have it. The informants often talked about cloth that they had been given by their mothers as pieces which kept them connected to their mothers, and in turn to their grandmothers, and eventually to the ancestors far back in time.

Even if most Maya girls are pushed into weaving, not all Maya girls possess the skills necessary to learn how to weave.⁴ Women who never took up weaving explained that “there was nobody around to teach me how to weave, and now it is too late for me to learn” or “I don’t have it in me, I simply can’t learn how to weave.” Some women explained that they were not interested in weaving when they grew up and instead they had picked up other skills which they had excelled in, e.g., midwifery, horticulture, agriculture, or curing. The weavers’ own experience of apprenticeship was explained by a desire to know how to weave cloth because they wanted to possess the skills which their mothers had. Other reasons are more calculated, as weaving enable weavers eventually to live off selling cloth if they become skilled enough in the weaving of cloth.⁵

Weaving skills progress as the weaver gets older and her capability to weave more beautiful cloth develops with life experience. When a Maya weaver begins to learn how to weave as a child, she lays out the colours in the weave in simple combinations, because at this stage she is learning the basics of weaving and how colours and patterns *should* be combined. Entering puberty, a girl becomes braver and she starts experimenting with her own colour and pattern combinations. This is a crucial time for the weaving novice because some women think that these are the years that will show if the girl possess the skills she needs to be able to develop her own style of weaving. When married,

⁴ This refutes the idea that all Maya girls have an innate capability to weave on the backstrap loom (Greenfield 2004).

⁵ Similarly, Wilkinson-Weber’s (1999:132-33) work on the Indian chikan embroiders reports that the acquisition of superior skill is determined by *shauq* (love, interest) and *pareshani* (troubles, hardship). *Shauq* stimulates the novice to hunger for knowledge and to learn embroidery, while *pareshani* spurs embroidery apprenticeships because of the desperate need for money.

women usually move away from their parental home, and this move will spur them to start experimenting even more with their own colour and pattern combinations. Isabel remarked, "when I married, I felt I could weave my own ideas because I had grown up".

As the weavers progress through life, their weaving skills accelerate, unless they get very ill and cannot weave anymore. The informants explained that the best weavers are older women because they have gained a lot of weaving knowledge through constant weaving, and because the older weavers know more about life they can weave better cloth. Thus, a weaver's ability to weave more beautiful cloth depends on her life experience because she is then able to apply not only her weaving skills to the cloth, but the cloth will be moulded according to her life experience. Or as one of the weavers said about another weaver, "...she had a hard life but she can weave the most beautiful cloth."

WEAVING STAGES

Materiality of learning

When learning how to weave on the backstrap loom, there are several stages which the weaving novice has to pass through before she can think of herself as a weaver. She also needs to learn these skills if she wants to excel as a weaver and develop her own style. Each of these stages has to be learnt through bodily practice and by imitating the movements of another more skilled weaver.⁶ The weaving novice cannot use notebooks to write down the process of setting up the loom or the technique of weaving itself. The weavers explained that using notebooks is regarded as cheating the memory as weaving skills have to "go into the head and not onto paper." If the weaving instructions are written down, the weaving novice may not learn quickly enough because she is relying on the notes and not on what she actually learnt. Instead a weaving novice has to practise setting up the loom over and over again with the help of another more

⁶ Most female tasks, like corn grinding and tortilla making, are learnt by imitation in Maya communities. Young girls use makeshift tools when practising these tasks. For example, when one of the weaver's daughters was playing and making "tortillas," she used a large stone as a *metate*, stone table, and a stick as the *mano*, grinding stone, and used old tomatoes, black pepper and leaves for the ingredients. She moved the stick across the large stone crushing the ingredients into a workable paste, which she demonstrated as her tortilla.

experienced weaver. This action has to be repeated until the weaving novice has memorised the process and has no problems in setting up the loom and is able to start weaving by herself. Even if Maya weaving teachers give verbal instructions to weaving novices, the actual act of weaving has to be learnt through repeatedly imitating more experienced weavers' bodily movements. This makes the learning process of weaving highly individualised, which is reflected in the cloth the women weave.

Thus, learning to weave with the backstrap loom is not a universal characteristic of Maya women which is naturally passed down the maternal line. Weaving is a skill which weaving novices have to learn through repetitive bodily practice over a number of years before they are considered as having mastered the art of weaving. This supports Ingold's (2000:291) suggestion that to learn something should not presuppose that the knowledge already exists in the heads of the practitioners as pre-existing schemata, but that skills are learnt through practice (see also Bourdieu 1977:73, Ingold 1986:209-10, Ingold 2000:415-417, Lave 1990). Learning should not be seen as separate from doing, and Ingold criticises the theory of learning adhered to in cognitive science and western educational theory which separates learning from doing. Ingold suggests that "through a focus on skill as embodied knowledge we are able to dispense with the troublesome dichotomy between innate and acquired characteristics." (Ingold 2000:291).

Further, the material qualities of the loom parts and the various sets of threads are of utmost importance because their tactile qualities aid the weaving novice in learning how to weave. Her body gets attuned to the materials she is working with and by getting to know them, e.g., how to use them in the proper way, how to hold them, and how to decide which material is the best one to use, she learns how to weave. It has been attested that in apprenticeship it is important to pay attention to how materials feel, taste and what they sound like, because this enables the novice to understand the structure of the materials which aids the learning process (cf Ingold 2000:416, Gibson 1979:254, Trimble 1988). The materiality of threads and loom parts also defines how efficacious the cloth is. Buchli (2000:17) suggests that the materiality of an object may be more important than the artefact itself and suggests that we should pay attention to what happens before and after the artefact, and how individuals participate in these processes. To pay attention to the material qualities of tools can help to illuminate how the end product is shaped by a combination of skilled practice and tool use (Dobres & Hoffmann 1999:8).

Tactile, visual threads

The first stage in the process of learning how to weave on the backstrap loom is to learn about threads. It is essential for the weaving novice to understand which threads are best suited to use for particular types of cloth, e.g. if the cloth woven is to be used as a shawl, a *huipil*, or a belt. Maya weavers learn to “know” threads by touching their surfaces; this ensures that they learn to choose the thread best suited for the cloth they want to weave. Tactile handling of threads helps the weaving novices to understand the structure of the threads and the capacity they have to make good quality cloth. The weavers have to sample threads repeatedly through touch and sight until they have gained an understanding of the various thread types available, and how surface qualities are related to strength and value.

The combination of sheen and softness of threads is an indicator of the value of threads. The shinier and softer a thread type is, the more expensive it will be, whereas the coarser a thread is, the cheaper it is. Wool and acrylic thread are the cheapest and thickest threads; they are widely available, and not expensive. Wool is mostly used for men’s foot-loomed jackets and trousers, but it can also be used for women’s foot-loomed skirt and backstrap-loomed belts. Wool is not used for weaving patterns because it is not considered to be smooth and pretty enough to enhance the look of patterns. Acrylic is used for patterns when weavers cannot afford cotton thread. It frays more than cotton and it also stretches after a while, which is not good for the structure of the cloth. However, acrylic thread is valued because it keeps the warmth when woven into a *huipil*, and in some communities it is used for weaving the dry season (winter time) *huipiles*.

Cotton is slightly more expensive than wool and acrylic threads, and there are different types of cotton available, making it a multipurpose thread (fig 3.2). Weavers say that cotton is popular simply because it is cotton; it is mythologically connected to the creation of weaving. Even if shinier thread is considered more beautiful, cotton has an overall higher value because it is such a versatile material, and it is the most widely used thread in Guatemala. Cotton is used as the foundation thread for most *huipiles* and shawls, and also for foot-loomed skirt cloth, as well as for men’s hand- and foot-loomed trouser and shirt cloth. The value of cotton is constantly emphasised, because weavers think it is the best thread to use when learning how to weave. Isabel was the only weaver who thought that I should learn how to weave with acrylic thread. She said it would be easier for me to learn to weave by using thicker thread because it does not tangle or break as easily as the thinner cotton thread. All other weavers preferred cotton, because they think there is no point in learning how to weave if the best threads are not used from the beginning.

Rayon thread is the next thread up in the hierarchy, and it is mainly used for weaving delicate patterns into *huipiles*. Weavers use rayon when they cannot afford to buy silk. Silk is the highest priced thread, described by all weavers as one of the loveliest threads to use because of its smoothness and sheen. It is most commonly used for patterns in wedding and ceremonial *huipiles*. Both rayon and silk are appreciated because of their delicate structure which is deceptively strong. They are regarded as threads which put a lot of sheen and warmth into the patterns and this affects the overall look of the cloth.

The tactile and visual qualities of threads are also determined by colour, because the surface sheen of the thread may be deceptive in figuring out if a thread is structurally strong. For example, rayon thread is not as strong as cotton, but sometimes it may look like cotton, and vice versa. To find out the truth, weavers touch the surface and look at the structure of the thread closely. However, sometimes the weavers simply look at the price tag, which reveals soon enough if the thread is rayon or cotton, rayon being the more expensive of the two. When weavers go to the markets or the shops to buy thread they have to bear in mind all of these aspects of strength, sheen and colours, so that they will choose the right thread for the cloth they are weaving. Weavers can thus spend a long time choosing between different thread types, assessing their structural qualities and looking at the colours, because they have to find the threads which are the most suitable for the cloth they want to weave. Or as Juana remarked "If you don't choose the right thread you may not be able to weave the cloth properly; you have to know what you are doing from the start."

When shopping for thread with the weavers, they made me touch and look closely at the threads so that I could distinguish between different thread types. Ana showed me a Guatemalan brand of 100% cotton threads in the most amazing, subtle hues of purples, pinks, greens, browns, blues and whites. Ana explained that these were the best threads for weaving, and that one could feel how good they were by touching them. She told me to pay attention to how soft they are on the surface, yet structurally strong to withstand weaving. She explained that the colours also added to the overall quality of the threads because they were pleasant and beautiful too look at.

Similarly, when choosing thread with Juana, she showed me wonderful, naturally dyed 100% cotton threads in marvellous hues of forest greens, mandarin oranges, saffron yellows, lavender blues, mauves, purples; even the greys and black threads seemed to have an otherworldly sheen to them (see fig 3.3). When we looked at them, Juana asked me to touch the threads and told me that I should note how soft they are and how subtle the range of colours is. She

remarked that I should pay attention to the strength of the thread despite its soft surface appearance.

After the weavers have bought their selection of threads, they take them home where the threads have to be stored in specific ways before usage. Some colours and materials have to be kept separate from others because of their potency; if they are kept with weaker colours and materials they may harm them. Red, natural white and brown cotton are potent colours and materials and have to be stored separately. Silk and rayon threads have to be kept separate from cotton so that they do not counteract each other. Wool and acrylic are the only threads which can be left uncovered because they are not regarded as particularly potent, though red wool and acrylic must be covered. Isabel and Rosa kept threads in different plastic bags, sorted by colour and quality, and these bags were kept in different drawers. Ana separated her threads by wrapping them in different types of cloths, and stored them in several baskets. Juana kept her threads in plastic bags and placed the bags in baskets, which were kept underneath tables.

Winding and warping rhythms

After the weaving novice has begun to form an understanding of how to identify the right kind of threads to be used for specific types of cloth, she has to begin to practise how to use the threads. As threads are sold in skeins, e.g. loosely bundled together, they have to be wound into balls, because then they are easier to unwind without getting tangled (fig 3.1). Because Maya weavers use a warp (the vertical threads) and weft (the horizontal threads) ⁷ made from two threads they have to wind thread from two separate skeins at the same time into a ball. The winding of threads into balls can be done by a weaver on her own, or with the help of a reel onto which the skeins are placed; this unrolls the skeins as the weaver winds the threads into a ball. Or, more usually, the threads are wound into balls with the help of a friend who holds the skeins over her arms, moving them in circular motions as the weaver is winding the two threads into a ball (fig 3.4). Sometimes the weaver uses her own body by placing the skeins around her neck, and winds the threads by pulling at the threads from the skein.

⁷ Though in some Maya communities, three, or even four threads may be wound together to make the thread for the weft.

It is extremely important for a weaver to learn how to wind the two threads properly into a ball because the threads create the foundation structure of the cloth. The threads are usually wound onto a small piece of scrap paper or card, which the weaver holds in her left hand, while the right hand holds the threads to be wound. The winding motion is slow to start with, as the weaver carefully winds the thread into a ball, and then she picks up speed as her hands and arms get into the rhythm of winding. The threads have to be held tightly with the winding hand and they have to be wound closely together so that they form a unit, but they are not spun against each other. When the threads have been wound into balls, the weaving novice has to learn how to wind thread from the ball onto a shuttle, a weaving tool onto which the weft thread is wound. The shuttle is held in the left hand and the right hand winds the thread onto the shuttle in another rhythmic motion in which the weaver moves the hand and the shuttle simultaneously.

When enough weft has been wound on the shuttle, the weaving novice is ready to start practising how to set up the backstrap loom. This process begins by learning how to wind the warp threads from the ball, or sometimes straight from the reel, onto the warping board (fig 3.5-3.6). The weaving novice can either kneel on the ground, or stand up, if the warping board stands on a table. When the threads are warped, the right hand is used for winding the thread onto the pegs of the warping board, while the left hand holds the tail of the thread so that the warps do not get too loose or tight. The ball of thread is put in a basket so that it does not roll all over the ground. Because warping necessitates continuous movement, the weaving novice has to find her own rhythmic pace which allows her to warp the threads properly. The weaving novice has to ensure that the threads are tensioned but they cannot be warped too tightly, nor too loosely (fig 3.7).

Loom and body-artefact

When the loom is set up and the weaving apprentice is ready to start weaving, the first thing she is taught is that the loom has to work *with* the body, as if the loom is part of the body (fig 3.8). If the weaving novice does not know how to make the loom work *with* the body, she will not be able to weave cloth. Weaving novices have to copy the correct movement that weavers demonstrate by paying attention to how the movements enable the loom and body to work together. The informants frequently stressed that to be able to weave proper cloth, the loom has to become a part of the body, "the body and the loom have to work together, as if they are one" (Juana). When the loom is operated by the weaver the body is thought to be solidified in the functioning of the loom,

through the perceptual and cognitive act of weaving (see De Leon 1999, Ingold 2000).⁸

To further ensure body and loom integration, weavers have to find their own rhythm of weaving, *el ritmo*, because this helps the whole body to move in unison with the loom when weaving. To find her own *ritmo* or "rhythm of weaving" the weaving novice has to practice synchronising the rhythms that incorporate the backwards and forward movements of the body when manipulating the heddle (a thread which is inserted into the warps to enable the separation of warp threads), batten (a tool used for opening the *shed* and for beating down the *weft* thread with) and shuttle throughout the weaving process.

This interaction sets a rhythmic pace to the weaving and aids the learning process, though it is not only the act of weaving itself which has a rhythm. Each of the stages of learning to weave - learning how to wind thread quickly and swiftly, to warp threads elegantly, and to set up the loom without making mistakes - contains its own rhythmic paces which the weaver has to find. If a weaver cannot find her own bodily rhythm when learning how to weave, she will be unsynchronised in her movements. This means that she will not be able to weave properly and her cloth will be structurally loose and of poor quality.

The movements during weaving are governed by the bodily attachment to the backstrap loom, which consists of several sets of wooden bars or sticks. Two main cloth bars hold the two ends of the warp threads in place. One cloth bar is fastened with a rope to a tree, or a house or terrace beam. The second cloth bar is fastened to a backstrap, which is attached around the weaver's waist or hips. Hence the name backstrap, or hip, loom. The tension of the loom is held by the weaver's body, and she has to learn to make the loom parts move in relation to each other, because this is necessary for the loom to function properly. During

⁸ In the French School of Technology, Leroi-Gourhan (1993:242-9) suggested that the workings of the machine mimic those of the body. This was taken up by Ingold (2000:301-308) who suggests that in man or animal powered machines, the living body becomes an integral part of a complete determining system. He points out that technological choice in many cultures forms part of an individual's ontogenetic development, which is the consequence of long apprenticeships which begin in childhood. This affects the musculature, neurology, and anatomy of the human body, and once technology is understood as the *modus operandi* of the human organism, it is not possible to suggest that technology is separate from biology. When humans operate tools over time, the body changes because the repetitive movements put strain on the musculature and skeleton. Analysis of human remains to classify occupational areas have supported this find, e.g. Molleson (1994).

the weaving process, the movements of the loom and body have to be kept synchronised as the weaver moves her body backwards and forwards.

Once the weaving starts, she has to continue to work in unison with the loom parts and the threads. She has to keep the rhythm when she learns how to pass the weft thread swiftly through the shed, the opening which is created from the crossed warp threads. She has to hold up the shed with the batten so that the weft can be pulled through, and then the batten is used to push the weft down and towards the weaver's body to secure it in its place. During this time the weaver has first to lean forward so that the shed can be opened by the batten. When the weft is pushed down by the batten she has to lean back to keep the tension of the threads tight. After the weft thread is secured in its place, the heddle is used to change the position of the warp threads. To do this the weaver has to lean her body forward to loosen the tension of the warps so that they can change position. Then the process starts all over again, the batten is used to keep the shed open, the weft is pulled through and pushed into place with the batten. To learn these techniques properly facilitates the smoother and faster weaving of cloth and weaving skills are contingent on what the informants described as the weavers "merging" with the loom.

"Seeing" threads

When a weaving novice has advanced to the stage of knowing how to handle threads and how to weave plain cloth, she is considered ready to start learning how to weave patterns. The first pattern a weaving novice is taught will be structurally simple, because she has to learn how to manipulate one, two, or more brocade threads into coherent sequences in the weave. Patterns are not embroidered afterwards into Maya cloth, as many assume. Instead, patterns are created by inserting a supplementary weft into the weave, which is also called a brocade thread, hence the term brocading patterns. The brocade thread may be inserted into the weave with the fingers, or with the help of a brocade stick or a bodkin, which I will explain later.

The act of brocading threads into the weave is described by weavers as "seeing" the threads,⁹ and this is an important part of weaving technology,

⁹ The "seeing" of threads during weaving is essential in learning how to weave with the backstrap loom, and it is connected to the concept of how the sense of vision is thought of as an important, and sometimes dangerous sense in Maya communities, e.g. the evil eye (Greenberg 1984). Persons who have accumulated a lot of bodily heat, or *poder*, power, may emanate the evil eye on weaker persons, such as children or ill people. The weavers

which is related to “knowing” the threads. When a weaver “knows” the threads, she has mastered the ability of “seeing” threads properly. The hands and eyes of weaving novices are described as “they don’t know anything yet, they have to learn.” To learn to “see” the threads means that the weaver has to be able to count and section the warp threads into symmetrical sequences by looking at the warp threads, without using the fingers for counting them.

During the process of “seeing” the threads, equal amounts of the back and front warp threads have to be sectioned before the brocade thread can be introduced into the weave. The structure of the warp threads is made up of two threads and this means that it is necessary to count the warps in pairs. The threads in the front of the weave consist of two threads, and the threads at the back consist of two threads, both of which are counted as one. Thus when counting three warp threads, in reality, *three pairs* of warp threads are counted. If the back and front warp threads are counted incorrectly then asymmetry appears in the patterns, and this is not considered aesthetic by the weavers. The aesthetics of patterns in Maya cloth is based on symmetry and rhythm and this can only be accomplished if the weaver “sees” well. This is why it is essential for Maya weavers to learn what they describe as to “see” well. If a Maya weaver cannot learn how to “see” the warp threads properly, she cannot learn how to weave patterns because she is relying on using her fingers for counting the warp threads. This not only slows down the process of weaving, but weavers say that women who can’t “see” will not be able to advance their skill of weaving patterns to the degree which is necessary to excel as a weaver in Guatemala.

Ana and Juana described how the trick of learning how to “see” threads when brocading patterns is to focus the gaze straight through the warp threads onto a point which lies beyond the threads. This will aid in “seeing” the threads as one pair, and it makes the process of counting by sight easier, because the warp threads are seen in groups of two. Some weavers use the fingers to count and separate the warp threads until they have learnt the “sight” of counting. Other weavers say that practising “seeing” the threads without using fingers from the very beginning will actually speed up the process of learning how to “see” the threads. When a weaver can brocade patterns and “see” the threads without counting them individually with the fingers, she has acquired the required skills needed to weave proper cloth.

described how the female gaze is downcast or directed forward when walking around in the village, because an open gaze, returned to men, is taken as a sexual invitation and can lead to a lot of trouble for women. Persons who are quick learners are described as people that know a lot, because they “see” everything.

Knowing patterns

It is not enough for a weaving novice to be able to learn how to “see” the threads when brocading patterns. Patterns have to be repeatedly brocaded because weavers say that repetition enables the weavers to memorise the patterns. This process of memorisation is described by the weavers as “it is important to continue brocading (the pattern) once a pattern is learnt, otherwise it can’t be learnt properly” and “once you have woven a pattern it stays with you forever; you should not have to look at the prototype of the pattern again to be able to weave it.” When patterns are memorised they are conceived of as having “sunk into the head;” e.g., they are cognitively stored for the rest of the weaver’s life until they are recalled by the bodily act of weaving. Ana and Juana often patted me on the head and said that “this is where the patterns go, they sit in here.” This indicates that the bodily activity of weaving patterns supports learning through practice (cf Ingold 2000).¹⁰

If a weaver does not “know” the patterns and their structure then she will not be able to weave properly. This is similar to what Wilkinson-Weber (1999:126) found in her work on the Indian *chikan* embroiders who say that to know *chikan* is to know stitches, meaning that they know how to make it and name it. My informants stressed that the memorisation and “knowing” of patterns presupposes that the weaver “knows” how the cloth is structured, e.g. the relationship of the warp and the weft. Juana explained, “If a weaver does not understand how the threads are set up on the loom then she will never learn how to generate patterns” and “it is important to understand how the warp and the weft function together when thinking about patterns and how they are made.”

Weavers explained that once patterns have been woven often enough, their construction is understood, and this is why it is possible to weave them again. However, if a weaver is able to recall a pattern which she only wove once before, she is regarded as a very skilled weaver. Weavers frequently told stories

¹⁰ Ingold lists five critical dimensions of any kind of skilled practice (2000:291). 1) Intentionally and functionality are immanent in the practice itself, rather than being prior properties of agent and an instrument. 2) Skill is not an attribute of the individual body in isolation but of the whole system of relations constituted by the presence of the artisan in his or her environment. 3) Rather than representing the mere application of mechanical force, skill involves care, judgement, and dexterity. 4) It is not through the transmission of formulae that skills are passed from generation to generation but through practical hands-on experience. 5) Skilled workmanship serves not to execute a pre-existing design but to actually generate the forms of artefacts.

of famous weavers who reputedly remembered patterns after only weaving them once. There was even a feature in a local Guatemalan newspaper in November 2001 which told the story of a very old Maya woman who stated that she knew all the patterns from all the different Maya communities. She said that she could recall each one of them perfectly; no pattern was too difficult for her to weave.

Delegation: bodkins, brocade sticks, colour

Learning how to “see” when brocading patterns is aided by the use of one or more brocade sticks, a bodkin, and the colour of the thread itself. This is what De Leon (2002:9-11) refers to as *delegation*: the application of further tools in enhancing task performance to release the cognitive burden and to act as a memory aid. Weavers may use one or more of these tools during weaving, but this depends on the weaving techniques of their community. A weaver will not use a weaving tool that is not used in her village because it does not belong to her tool-kit. Weavers feel that they should not use tools which they were not brought up with because this will change the way they make patterns, and it is by knowing how to make community-specific patterns that a weaver differentiates herself from another community. For example, Isabel and Rosa used the brocade stick for weaving patterns; Ana used both the brocade stick and bodkin; whereas Juana only used her fingers when brocading patterns.

The insertion of a brocade stick into the warp threads during weaving creates a rhythm which aids the process of learning to weave patterns. Isabel and Rosa emphasised how important it is to find the rhythm which is created when putting the brocade stick in between the warps, because this makes the “seeing” and counting of the threads faster, and also accelerates the speed of weaving (fig 3.10). Most of the weavers used the brocade stick so quickly that I could not believe they had time to “see” and count the threads properly. Rosa explained that “once you get into the rhythm of weaving it just takes you over.”

Another tool used in brocading is the bodkin, which is a tool used to pick up the brocade threads through the warps (fig 3.10). The bodkin is a very versatile tool because it is usually thin enough to be able to insert between tight warps. It can be used to pull loose threads through the warps, and it can be used as a brocade stick by weaving through small portions of the warps. It is more difficult to find the rhythm of weaving with the bodkin because of its size. It is smaller and cannot be inserted in a continuous movement through the warps in the way that the larger brocade stick can. But the multi-functionality of the bodkin as a tool for brocading and picking thin brocade threads through the warps is priceless. In communities where the bodkin is used, the possession of a bodkin also defines

an important stage in the novice's progression to becoming a proper weaver. The bodkin is introduced when more difficult patterns are taught to the novice. First, the novice may use a cheap bodkin made from wood or bamboo which can be bought in shops that sell weaving materials. After the novice has shown skill in weaving patterns, she will receive a proper bodkin from her teacher. Proper bodkins are usually made from bird bone and they can be ornately carved at the top end of the bodkin (fig 3.9). Weavers who own a proper bodkin become extremely attached to it, and great care is taken to store it in secure places so that nobody else can get hold of it.

Colour is another level of *delegation* in weaving patterns because it helps the weaver to understand how to "see" and know threads, and it also aids the novice in finding the rhythm of weaving. Because a weaver has to learn how to use and be in charge of several colours when she is weaving patterns, she thinks about patterns as sequences of colours that make up different quantities; e.g., patterns are built up of horizontal blocks of colour which grow and reduce in symmetry in each row of weaving (see figs 3.11-3.13). The weaver has to learn how to see and count the different-coloured threads properly in order for them to work in harmony with each other. If one section of a pattern goes wrong, this will affect the other patterns, because all the patterns stand in relation to each other in the finished cloth.

The continuous application of many different colours, or what could be described as weaving colour rhythms, speeds up the weaving process because colours aid the weavers in seeing where the patterns should be placed. Colour emphasises visual memorisation in learning to weave patterns because the patterns are a result of colour contrast, this means that patterns are created by placing two or more colours next to each other which brings forward patterns on surfaces. The use of contrasting colours eases the weaver's understanding of the structure of the weave because colour contrast makes the pattern stand out from the foundation and the weaver will know where to place the brocade thread in the next stage.

When brocading patterns, different colours make it easy to see how the pattern will grow and reduce in size because the eye can follow the edge of the pattern in the previous row (which is in a different colour) and focus on the warp threads easily. This makes it easier for the weaver to see how many warp threads should be taken off or added to the pattern before the brocade thread is pulled through. Once the first row of the pattern is brocaded it is easier to rely on sight when counting the size of the pattern in the next row of brocade, because the different colours make the patterns stand out. The eye can simply follow the warp threads from the previous row and separate the threads in the desired sections using the brocade stick.

For example, when brocading a dark red bird on a white foundation, the colour contrast of dark red and white makes it easier for the weaver to “see” and to understand what she is trying to do, because it is the application of colour which creates the pattern (fig 3.14). Placing colour in the weave creates a rhythmic boundary (of colour) guiding the weaver to the point where the next pattern will be placed; e.g., the edge of the bird itself will mark the boundary for the next bird pattern. When brocading rows of patterns, the spaces above and below create boundaries for additional patterns and will aid the application of new colour sequences. In this case, a row of birds will create a sequence and a boundary of colour, and will delineate the space where the next row of patterns can be inserted.

Threads, friends and foes

It is particularly during the act of weaving patterns that the weavers’ knowledge of using the right kinds of threads comes into play. Because threads are classified as strong or weak depending on their material and structural quality, as explained earlier, it is important for weavers to choose the kind of thread that suits the purpose of the cloth they are making. Weavers try to stay away from weak threads, because threads that are structurally weak may split during weaving, or any time afterwards, which results in floppy cloth. For example, wool is not considered a structurally good thread to use for women’s clothes because it does not hold the tightness of the weave in the same way that cotton does. Weavers remarked that wool is a thread which expands too much and because of this it is not good to use for long lasting *huipiles*, skirts or belts. Several informants described how woollen skirts don’t keep their shape; they often fall apart after a short while, and the colours fade in the sun. Woollen belts are considered very bad because the weave loosens after a while and this makes it feel as if the skirt is going to fall off.

Bright metallic thread, *bricho*, is popular in the communities around Lake Atitlan owing to its sheen, but in some villages *bricho* is not popular because it is structurally weak and frays easily. One of the informants said that when metallic thread was first introduced to Guatemala, the weavers in her village started to use it because they liked the sheen. Then they realised that the metallic thread started to fray in the wash because it was not as strong as the normal cotton thread, so the weavers stopped using it. They prefer higher quality threads that do not fray; even if they like the sheen of the metallic thread, they choose not to use it because it does not last long. At present, metallic thread has a completely different status in the village, but it is still used in the other villages, particularly those around Lake Atitlan.

Because densely woven cloth is the preferred end product for backstrap loom weavers, it is essential for weavers to use good quality threads. To create a strong foundation for the patterns, the warp and weft threads have to be strong and smooth so that a dense grid of weft and warp can be woven. If weak thread is used, the weave becomes too loose because the weave gives way from wear, and the patterns will start to look skewed after a while. Warp threads can be made structurally stronger by soaking them in maize gruel (*atole* or *sak'a*). This makes them sturdier and better to weave with, but it will change the surface from soft to rough. Brocade threads are not usually soaked in maize gruel; they should remain structurally soft because then they stand out more from the matte foundation weave.¹¹

Throughout the weaving process it is important to keep the different sets of threads (weft, warp and brocade) separated and untangled. The weft thread should not be left dangling too long off the shuttle because it will get tangled with the brocade threads and loom parts during weaving, which slows down the process of weaving. The weft thread should not be too short either, because then the thread is not allowed to move freely, and this results in a tight and uneven weave. The brocade threads have to be straight and not too long, nor should they dangle off the sides or the reverse, because this will make them get caught in each other. The threads should not be stuck together when they are supposed to float into the weave easily, locking into each other as the weaving progresses. Threads are seldom cut or broken by the weavers if they get tangled, but if they tangle, the weavers have an incredible ability to untangle knots in swift motions.

Because weavers consider threads to be temperamental, it is important to try to keep them under control. If threads revolt they can get tangled and this slows down the weaving process. In Trimble's study of Pueblo potters in the Southwest US, he reports that the clay speaks to the potters, and this enables the clay to form into the right shape in the potter's hands (Trimble 1988:13-15). But the clay can be selfish and wants to form into another shape and not the shape which the potter wants; thus the clay has to be coaxed into the proper shape by the potter.

Similarly, when Maya women weave, the threads can become the weaver's friends or enemies. It is important for a weaver to be in control of the threads when weaving, and threads have to be "understood" and treated with respect. Because threads have to be "understood" by a weaver, they become the

¹¹ Warps that are prepared with *atole*, maize gruel, are harsh to touch in comparison to untreated soft cotton threads.

weaver's friends during the weaving process through her ability to control them. A weaver who gets threads tangled with each other is considered a bad weaver because she does not "know" the threads well. Because of this, she does not know how to treat the threads properly, and this is the reason why the threads get tangled. If threads are not understood properly they become the weaver's enemies and this means that the weaver cannot make them behave in the proper way because she is not able to tell the threads what to do. Weavers describe threads as behaving badly some days, whereas the next day they will behave well and be fine to weave with.

Sometimes threads can behave badly throughout the whole process of weaving and this results in ugly cloth. To counteract this, threads have to be made to behave well, otherwise they will not create a good weave. To be able to make the threads behave well they are often slapped and beaten so that they behave in the right way. This act is also practical because after weaving for a while the warp threads get very tight and this makes it very difficult to separate the shed. To ease the tension of the threads, weavers run the hand across the warps in a swift motion. Or, they slap the threads at regular intervals; this eases the tension of the weave and makes the threads more workable. One of the informants said that it was permitted to use the hands to make the threads behave well during weaving; the threads did not mind being slapped. To slap the threads regularly during weaving makes the end product better because this means that the weaver is in control of the threads and they do as she says. The weaver's ability to control and understand threads through touch makes her a woman with good characteristics, because being able to understand threads by touch she can understand other materials as well.

Efficacy of cloth: skills, tools and materiality

There are several factors that contribute to what Maya weavers regard as efficacious, or "proper" cloth. The weave has to be tight and it cannot have any structural faults. The warp and weft have to interlock without showing gaps, and there can be no loose or broken threads or any missed sequences. Patterns and colours have to be properly executed. This means that the brocade threads have to be pulled through the warps in a proper way and that the patterns are not woven into too tightly or too loosely. The patterns and colours should also show innovation in construction; e.g., they should be combined in new ways, sometimes so subtly that only the weaver knows what she has done. All of these factors show that the weaver has a lot of weaving experience.

The informants explained that the best Maya cloth is created by weavers who have many years of weaving experience.¹² The older a weaver is, the more weaving knowledge she has acquired through the repetitive handling of threads, warping, setting up the loom, and weaving patterns. Older weavers are the ones who have had time to handle a variety of looms and threads, and this experience enables them to know how to solve most problems that arise during weaving. Cloth woven by older weavers is admired because of their capacity to combine numerous patterns which they have memorised as a result of constant re-weaving. Older weavers also have extensive knowledge of how colours should be combined in the weave in order to create more effective cloth. Their capability of transforming threads into amazing colour and pattern combinations is spoken of highly, and their cloth gains a reputation with both Maya weavers and foreigner visitors.

What is termed as “proper” or efficacious cloth is thought of as containing the “essence” or “power” of the particular weaver, and the potency of this “essence” depends on how skilled the weaver is. Weavers who are more successful than others in weaving beautiful cloth are described as weavers who possess “something more” than other weavers. The “essence” of the weaver is translated into cloth through skilful material manipulation during weaving. Therefore the material efficacy of Maya cloth is revealed when looking at the construction of the weave. Because proper and efficacious cloth has to be densely woven, its construction is considered to bind energy into the weave. This is similar to what Conklin argues in his work on the South American *kipu* (Conklin 2002:75-77). Conklin describes how the extremely tightly plied yarns in *kipus* retain their stored energy amazingly well, even after 500 years. He points out that the plied cords of the *kipu* were over-spun and the stored energy in the cords makes the yarn turn around automatically, releasing a portion of the stored energy (Conklin 2002:75-77).

In Maya cloth, the tightness of the weave is regarded as a receptacle for stored energy, which is the result of a lengthy process which involves several levels of interaction, all of which are controlled by the weaver and her knowledge of threads and weaving techniques. The process of energy transferral into cloth begins with the winding of thread skeins into balls. This preparation is necessary for the swift availability of threads for the cloth during the weaving process. If skeined threads are used, they can get very tangled and this hinders the efficiency of cloth making, but when they are wound into a ball the thread comes off smoothly. The threads are then warped onto a warping board. This

¹² In comparison, see Wilkinson-Weber (1999) who provides an excellent account on skilled chikan embroiders in India and describes why experienced embroiders’ cloth are considered efficacious.

process requires much practice since it is difficult to achieve the right tension of the threads, which is needed for them to function properly.

If the threads are warped too loosely they will be difficult to weave with, but if they are warped too tightly, they will in the worst case break during the weaving process. Extreme care has to be taken when transferring the warps to the loom sticks because this is the phase when threads can fall off the sticks if they are not tensioned with the body. Once the warps are set up on the loom, the heddle needs to be put in manually. This requires undivided attention, because if the heddle is applied wrongly the weave cannot move properly. When the weaver has reached this stage, the efficacy of the cloth to be woven is dependent on how she uses the loom together with her body.

Efficacy of cloth also depends on the material quality of the backstrap loom and how the weaver uses it. The size of the finished cloth depends on the size of the loom; cloth can never be wider than the width of the looms sticks. Loom sizes have been appropriated by weavers to meet the demands of weaving different sizes of cloth. Smaller looms are used for weaving scarves and belts. Some of these are woven for the tourist and foreign market. Wider looms are used for weaving panels for *huipiles* and shawls. Most weavers will own several sets of looms, because they need to be able to weave different types of cloth so that they can become successful weavers by possessing a wide range of skills.

Backstrap looms go through physical changes during weaving, and constant use makes their function faster and smoother and increases the weaver's ability to weave more beautiful cloth. Juana described new loom parts as "being like babies, they are things that don't know anything yet." This means that the loom has not yet acquired the knowledge of the weaver. De Leon suggests that memory embodied in objects is exhibited by physical change, which is beneficial, because through continuous use the tool becomes more efficient (de Leon 2003:9-10).¹³

When weavers buy, or make, their loom parts, the wooden surface is untreated and rough to touch. The coarse surface is modified through the process of weaving and the abrasion of the threads wears down the harsh surfaces to a smooth finish. During the weaving process, the threads slip over the loom parts and the constant movement rubs down the loom parts. This movement imprints the loom parts with faint thread marks and these are often taken as signs of a

¹³ De Leon refers to how footpaths are generated around the house from habitual use, and to how telephone directories falling open on the pages of the most often used services due to a weakened spine.

skilled weaver and pointed out by weavers when they talk about their looms. Thus, the continuous usage of the loom transforms the efficiency of the loom, which contributes to the efficacy of the cloth. It is up to each individual weaver to treat and use the loom until it becomes workable, or as stated by Ana, until the loom “merges with her body.” This means that through continuous usage the loom begins to contain the knowledge of the weaver.

Of all the loom parts, the weavers pay particular attention to their battens. Unused battens have an uneven surface and they are thick and heavy when they are first acquired. Their size and shape decreases through use, and their physical shape alters quite dramatically. The surface of a new batten can be sanded down, but weavers think it is better to let the threads abrade the surface through weaving, because this process transfers the weaver’s “essence” to the batten. Some of the battens the weavers showed me had slimmed down from an original thickness of 3 cm, to a thickness of 1 cm. The surface of a used batten is shiny and smooth, and when the weaver has managed to alter the shape of the batten this much, the batten is described as working *with* the threads and loom parts, and not against them.

The efficacy of cloth also depends on the weaver’s skill to use her own body when measuring the length of brocade threads, the size and spatial layout of patterns, and the length and width of finished cloth. Weavers never use a measuring tape as in western textile industries.¹⁴ Instead the weaver uses her hands and fingers as a measuring device for deciding upon lengths and widths of threads, patterns and cloth. In one community the threads that prevent the heddle and shed bar from falling off the loom are measured from the fingertips to the chest once. In another community, the first six rows of weft thread have to be made from four threads and not the usual two thread weft, so the weavers measure the weft thread from the fingertips to the middle of the chest, i.e. the heart, four times. These threads are measured from the centre of the body because they create the foundation of the cloth, just as the central axis of the human body, the spine, keeps the balance. Also, because the chest holds the heart, the threads are conceptualised as measured “from the heart.”

Measurements taken from fingers and hands, e.g. one finger, two fingers, three fingers, four fingers, and the hand, are used to count the length, width and

¹⁴ The length and width of the cloth has to be decided before the warping of the warp threads takes place, and these measurements depend on what the finished cloth will be used for (shawl or a *huipil*). The width of the cloth depends on how many pairs of warp threads are used, and the length of the cloth depends on how many pegs of the warping board are used.

distance of patterns.¹⁵ Measurements taken from the hand are considered aesthetically pleasing, and this is taken as a sign of a well-made textile and also of a good weaver. For example, Rosa spread out her hands across the width of the cloth I wove to explain that this means the cloth is wide enough to be used as a shawl, or woven into a *huipil*.¹⁶ Juana used a combination of hands and fingers when measuring the distances between patterns. She used two fingers when measuring the vertical distance between the individual patterns in a row, e.g., the distance between the eagles in one row (fig 3.15). When measuring the horizontal width between separate rows of patterns, such as the distance between the row of eagles and the row of cats, she used the hand as a standard measurement.

Measurements taken from the hand are also practical because they define when patterns are to be introduced into the weave. The hand is placed horizontally on the cloth to measure the amount of cloth woven from the cloth bar. When a hand's width has been woven, the first pattern can be introduced into the weave. The hand is also used as a measurement towards the end of weaving; then it defines how much unwoven material can be left before the cloth is considered complete. It gets increasingly difficult to weave the closer the weaver gets to the end of the warps because the length of the unwoven warps get increasingly shorter, thus making the shed narrow, which in turn makes it difficult to move the heddle, shuttle and batten. So as not to waste any material, the size of the hand is regarded as the ultimate measurement of when the weaving should stop.

The weaving of efficacious cloth also depends on how much the weaver has advanced in her ability to "see" the threads. The easier it is for a weaver to "see" what she weaves, the more effective the cloth she is able to weave. There are various ways of "seeing" and counting the warp threads when weaving patterns, and the technique the weaver uses depends on her knowledge and experience, as in the section on "seeing" patterns. The technique chosen is also dependent on the category of patterns she chooses to weave. Patterns can be woven in horizontal bands across the cloth, or the patterns can stand individually in horizontal rows, or they may be placed diagonally in the weave. Thus, the efficacy of patterns themselves depends on whether the weaver uses a brocading stick, a bodkin, or if she makes the patterns using her fingers; or, the weaver may choose to use a combination of all three techniques.

¹⁵ Similarly, Norton (1989:18) reports how fingers and hands are used as measurements with weavers from Jacalteco, Guatemala.

¹⁶ *Huipiles* are sewn together from two, or three pieces of patterned cloth. Each piece mirrors the other so that the same rows of patterns continue horizontally.

Efficacy of cloth also depends on colour combinations. Weavers take great care when they consider how to combine the colours into the weave so that they don't disturb the harmony of the cloth. The most skilled weavers can manipulate numerous colours without disturbing the harmony of the weave, and the most complex colour combinations are woven by the most experienced weavers. Older weavers are more skilled in how to manipulate colours, and through time their ability to combine colours gets gradually bolder, and the patterns they weave are regarded as the most efficacious.

Weavers explained that when using several colours, the placement of colours has to be considered carefully when trying to achieve the right combination of pale/weak and bright/strong colours. A misplaced bright/strong colour can create havoc and destroy the balance and therefore destroy the overall effect of the cloth. Bright/strong colours should not be placed right next to very pale/weak colours because the weak colour will lose strength. The pale/weak colour has to be moved to another place where it is shielded from a very strong colour, much like a weak person has to be protected from persons who emit too much bodily heat. For example, when I wove the scarf with Lucia, I had to use the colour sequence of purple, blue, red and green. The light blue is too weak to be next to the bright green, so the light blue is placed between the red and the purple, so that the colours balance each other (fig 3.16). In the second scarf, the green and blue are equally strong, so they can be placed next to each other.

Bright/strong colours can be combined with equally strong colours to create extremely effective cloth. This combination makes a strong colour even stronger because it gains in strength from being next to an equally strong colour. For example, the *Gukumatz* pattern taught by Rosa (fig 3.17) is constructed from several bright/strong colours: a very strong red in combination with a very strong sky blue, a yellow with hint of green, a bright orange and a green that shifts in blue. These colours of pure bright hues function perfectly together because they complement and enhance each other's strength. In the modified pattern she used for my cloth, their overall effect is strengthened by brocading them onto a natural white cotton foundation, which is considered a very strong colour in itself (see fig 4.9). The cloth I wove with Isabel shows her favoured combinations of bright colours applied on a purple foundation (fig 3.18).

Light and dark shades of the same colour can also be combined when weaving patterns, and each community has its own parameters concerning which colours should be used in order to weave effective cloth. Colours are chosen because of their relationship with one another, with an emphasis on the contrast of dark and light, as in the cloth I wove with Ana (fig 3.19). In her community, weavers use shades of the same colours to weave horizontal patterns, e.g., bright green with dark green, light blue with dark blue, purple with lilac (fig 3.20). Related

colours are regarded as enhancing each other and create effective clothing. In Rosa's community, red silk thread is brocaded on a pink ground weave. Rosa explained that the red and pink are regarded as enhancing each other and they are considered to be equally strong, even if the ground weave is a paler shade of red (fig 3.21). The wedding *huipiles* from her community favour white silk thread that is brocaded on white ground cloth. The shiny silk takes on a creamy shade and it is regarded as complementing and enhancing the matte white ground weave (fig 3.22).

Weaving skills and loom innovation

Maya weavers have improved the "ancient" technique of backstrap loom weaving by modifying the loom with new materials introduced from Europe. These materials have enabled a smoother functioning of the different parts of the loom and improved the weaving of cloth.¹⁷ The evolution of the backstrap loom is largely due to the weavers' desire for a faster loom and the act of continual weaving has spurred the weavers to implement subtle changes to the loom. This is related to De Leon's argument that innovation of tools occurs because thought is built into things during the process of performing tasks, and this spurs a demand for improvement (De Leon 1999, 2002, 2003, 2003a). De Leon suggests that tools can help structure tasks in order to make such tasks cognitively easier to perform, and that artefacts, and our strategies for using them, develop over time in cognitively beneficial ways by embodying "cognitive biographies."¹⁸ De Leon also uses the term "cognitive congeniality,"¹⁹ to explain a process in which the workload of a task is improved by technological changes that improve the function of objects. De Leon's work is valuable for

¹⁷ In the literature on Maya culture, the backstrap loom is repeatedly referred to as material evidence of the technological continuity of pre-Columbian weaving and a stagnated tool, passively used by the weavers (see Martinez Pelaez 1990).

¹⁸ In his (De Leon 2003) study of people cooking in their homes, he explains how people handle timing constraints by using the spatial layout of objects to encode information, and how tools in the working environment are adapted and appropriated. In another paper (De Leon 2003a) he introduces the notion of "cognitive biographies" and relates the cognitive history of a large shelf of spices, "a history of the evolving artefact that focuses on physical changes in the object and the cognitive corollaries of those changes."

¹⁹ De Leon (2003) refers to Kirsch's (1996) "cognitive congeniality of environments," which suggests that a cognitive congenial environment is one that reduces the cognitive load on working memory and increases the speed and accuracy of performance.

conceptualising the evolution of the backstrap loom and how the application of new materials has enabled faster weaving.²⁰

To accelerate the speed of weaving, Maya weavers have substituted and added materials to the loom which enable it to work better with the weaver's body. Previously, cotton was used for the heddle, but this has been replaced with a nylon thread. This facilitates a smoother flow of the warp and weft during weaving and ensures a more symmetrical and tighter weave. When cotton is used for the heddle, the warp and weft threads are more difficult to move because the cotton will fray during the backwards and forwards movements of weaving and this will eventually result in knots, which are difficult to entangle. Nylon thread, with its silky surface, ensures that warp and weft flow into each other smoothly and prevents them from getting tangled.

The rope which attaches one end of the loom to the weaver's body and the other end to a supporting tree, or house beam, was previously made from maguey or reed. It has been replaced with a rope made from twinned plastic. This change is advantageous as the plastic rope is very strong, and its elasticity works together with the backward and forward movements of the body during weaving, without slacking too much. The backstrap itself is sometimes made from plastic rope that is woven together into a rectangular shape to make a flexible strap. Though its popularity depends on the weaver, some weavers claimed that a plastic backstrap is not as good as the sturdy leather backstrap, because the plastic gives way to the tension of the backwards and forwards movements.

If faster weaving was a desired outcome of the adaptation of the backstrap loom, it is worth discussing why Maya women did not adapt to using the treadle, or foot loom, which was introduced to Guatemala by the Spaniards in the colonial period. When the foot loom was brought to Central America, it was installed in *obrajes*, textile factories (Salvucci 1987). Indigenous men and women had to work in the *obrajes* to weave cloth, which was exported to Europe for the Spanish ruling class. But with the increasing competition of factory-made cloth imported from Europe, the wool and cotton cloth made in the *obrajes* was deemed old-fashioned by the Spaniards and the *obrajes* were in decline by the nineteenth century (Bauer 2001:110).

²⁰ De Leon (1999) re-analyses Baerentsen's (1989) work on the evolution of fire-arms from the middle ages to the present day. In this paper, De Leon traces how the manual operations of fire-arms have been incorporated into the tool itself; he argues that "cognitive processes have been 'fixed,' once and for all, in the physical structure of the artefact" (De Leon 1999:3,5).

Today the foot loom is used by the Maya and other indigenous groups in Central America to weave cloth for themselves and for the tourist market. In Guatemala, the foot loom is primarily used by Maya men and this has resulted in an apparent male identification with the foot loom. Maya women regard the foot loom as the men's loom and most women remarked that the foot loom is too mechanised to be considered part of the women's domain, or as Ana said, "the foot loom belongs to men, it is a machine, it works better for men." For a woman to do her main work on a foot loom is thought of as diminishing her identity because of the male association of the foot loom. Additionally, because of its large size, the foot loom constricts women's freedom of movement; it cannot be carried around during her daily movements in the way that the portable backstrap loom can.

Female weavers know that it is possible to weave wider and longer cloth with the foot loom and that it works faster than the backstrap loom, but Maya women do not like to weave on the foot loom because it does not allow for the material intimacy of the backstrap loom.²¹ This is related to what Ingold says about the invention of machines and the suggested separation of the body from the tool (2000:289, 311-314). He argues that the historical paradigm of the separation of the body from machines did not occur; instead what happened was an externalisation of the body from the machine. This is why Maya women do not like the foot loom, because it externalises weaving techniques and does not allow for the same degree of intimacy as the backstrap loom.²²

The intimate manipulation of threads is extremely important when weaving patterns. For example, when weaving with a foot loom, the weaving direction cannot be reversed. Maya women often want to switch the ends of the weave, e.g., so that the top end of the weave with the unwoven warps are at the weaver's waist, and the woven end is switched to the top end, attached to a tree or a beam. Also, weavers need to be able to look at the reverse side of the weave because this is the side where any faults are more evident. Cloth woven on the backstrap loom can be looked at from both directions, but the reverse

²¹ Dilley's (1987) study of the Tukulor weavers in Senegal reports that weavers resist technological change because their stick loom is a metaphor for weaving ideology.

²² For example, the sewing machine is used by both Maya women and men, and women have successfully appropriated the sewing machine into their cloth making, using it for embroidering surfaces and sewing cloth together. The sewing machine is not regarded as a tool separated from the body because it is possible to guide the cloth manually under the needle when decorating the cloth surface. There are even cults for sewing machines maintained by *K'iche* Maya women (see Boremanse 2000).

side of cloth woven on the foot loom cannot be looked at because it sits rigid on the loom. Cloth woven on the foot loom is also regarded as possessing more male characteristics than female (Asturias de Barrios 1994:154, table 3.8).

Conclusion

This chapter aims to demonstrate how a detailed focus on the materiality of weaving can inform recent theories of how body and tool work together in the learning and development of skill (De Leon 2003, Ingold 2000). Maya weavers think of the backstrap loom as part of the human body during weaving. Thus, for a weaver to learn how Maya cloth is made, it is necessary for her to understand the connection between the loom and her body. In backstrap loom weaving, the handling of weaving implements is governed by bodily gestures which have to be learnt through repetitive practice. A weaver cannot begin to weave on a backstrap loom without being shown how to do it, and once she knows the basics of weaving she has to practice this over and over again so that she gets better at weaving. Thus, it is the repetitive practice of weaving that enables the weaver to gain more skills.

Inherent in the learning of a new skill is the manipulation of tools, and this chapter aims to show that the materiality of tools is of crucial importance when learning how to weave. Previous studies on Maya weaving techniques have outlined the technical specifics of weaving, such as how the backstrap loom functions in the weaving of cloth (Anderson 1978, Hecht 1989, O'Neale 1945, Sperlich & Sperlich 1980, Taber & Anderson 1975). However, these studies have not focused on the actual material qualities of the weaving implements and how essential is it for weavers to understand the materials before they start weaving. Nor have these studies discussed the importance of the body-loom relationship in the development of skills. Hendrickson's (1995) and Kellman's (1991) research among Maya weavers outlined how materials are chosen by weavers when they start weaving, but these researchers do not focus on how bodily gestures are incorporated into the weaving of cloth. Research conducted in the Andes by Dransart (1995, 2002) however has recognised the importance of gestures in spinning and weaving.

My research expands current knowledge of the relationship between the materiality of weaving tools and bodily gestures. This chapter points out that the body engages intimately with weaving implements, and that it is the material qualities of the weaving tools that promote skilled learning, as argued for other areas of craftsmanship by Ingold (2000) and Trimble (1988). That the

materiality of weaving is crucial to the development of skill is evident in many ways. Maya weavers are choosy about loom parts and thread types, because to use the wrong kind of materials means that the weaver cannot proceed to weave cloth. The weaving implements have to be “understood” by the weaver in order for her to be able to weave cloth. A weaver who does not “know” the materials cannot weave what is deemed “proper” cloth. Therefore it is a prerequisite that a weaver “knows” the weaving materials, because only then does she know how to use them for the right type of cloth she is weaving.

The potency of weaving materials is exhibited in that a weaver has to store different kinds of threads separately in order to safeguard their power. If different types of threads are kept together, they may contaminate other materials which may then lose their efficacy. Threads can also be contaminated if other people touch them before the weaver uses them. Likewise, other people should not handle the weaver’s loom because the weaver has to get to “know” her loom properly to be able to weave properly and therefore she is the only one who should use it. This is how the loom and weaving materials become imbued with the weaver’s “essence” and become the tools that make it possible for her to weave beautiful cloth. Thus Maya women’s bodies function as creative tools by means of which threads, patterns and cloth are interlinked with the bodily gestures that operate the loom.

With practice and evolving skill, the weaver builds up a repertoire of personalised techniques and preferential weaving materials. Because each weaver perceives the loom as being imbued with her “essence,” it can be suggested that the loom parts contain “cognitive biographies” (De Leon 2003a) of the weaver’s skills. This indicates that there is not only one way of weaving, but that each weaver employs several methods that she has gained through practice, and that these methods enable her to weave personalised cloth. The centrality of the body during weaving ensures the creation of individualised cloth, and cloth efficacy is dependent on the weaver’s skills and on the materiality of the tools and threads used.

Thus, through an analysis of the intimate relationship a weaver has with loom parts and with the threads she uses during weaving, it is evident that the efficacy of cloth results not only from its aesthetic appearance but from the manual work that has gone into it (e.g. Conklin 2002). The several stages a weaver goes through to weave cloth contributes to the final look and feel of the cloth. The process of choosing the right kind of thread, winding the thread into balls, warping and setting up the loom, and the act of weaving itself all have a part in the creation of efficacious cloth. Thus to understand the efficacy of cloth it is not enough to discuss the visual appearance of cloth; it is also necessary to

study the stages it takes to make cloth, because these stages contain important components and experiences that affect the final look of cloth.

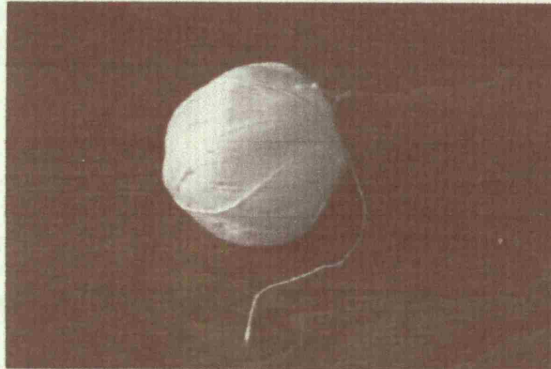


Fig 3.1 Natural white cotton wound into ball.



Fig 3.2 Cotton in bright colours.

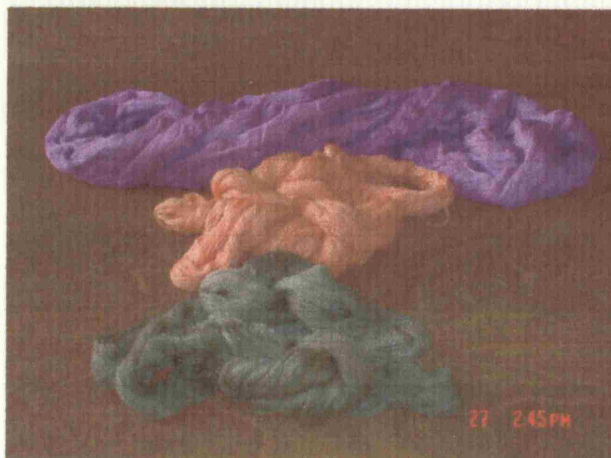


Fig 3.3 Cotton dyed with natural dyes of lavender, avocado and mandarin.



Fig 3.4 Winding thread with help of a friend (photo by Esther), Guatemala 2002.



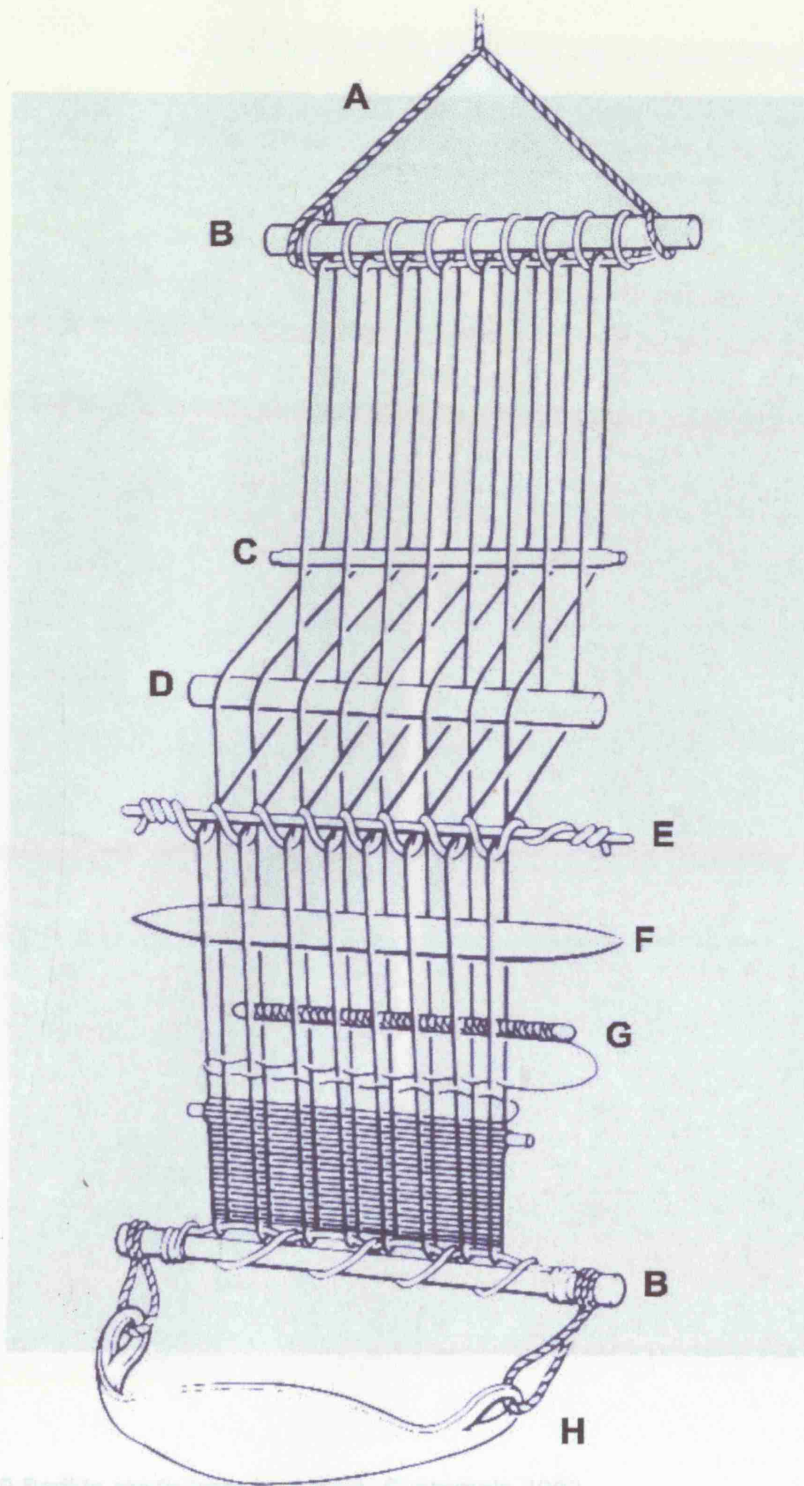
Fig 3.5 Warping directly from a reel to the warping board, Guatemala 2001.



Fig 3.6 Warping with right hand, holding the yarn flow in the right hand. The yarn ball sits in a basket so that it does not roll all over the ground, Guatemala 2002.



Fig 3.7 The warped yarns before they are taken off. They are sectioned into 20 threads in 13 sections, Guatemala 2002.



A. Rope or cord. One end is attached to a tree, or a roof beam. The other ends are attached to the top end cloth bar, **B**.

C and D. Shed rods, they keep the warps crossed throughout the weaving process.

E. The heddle rod. This lifts the alternate warp threads and creates the shed, through which the weft is pulled.

F. The batten. Used by the weaver to separate the shed to let the shuttle, or bobbin, **G**, pass through.

B. The end cloth bar, upon which the woven cloth is rolled.

H. The backstrap. It is placed on the weaver's hips or waist, and keeps the tension of the loom.

Fig. 3.8 The backstrap loom (after Blum Schevill 1993:55).

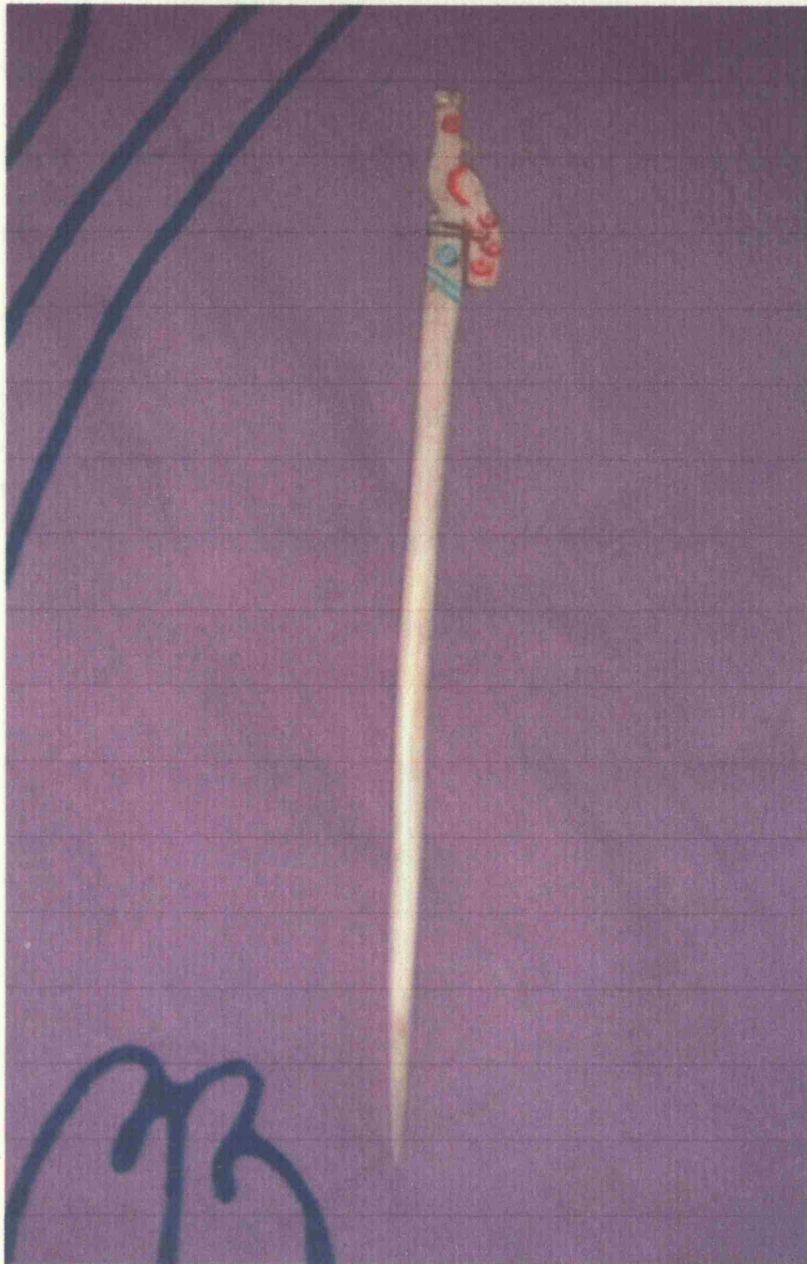


Fig 3.9 Bodkin made from bird bone, Guatemala 2002.



Fig 3.10 The bodkin is used to pick up threads, Guatemala 2002.



Fig 3.11 Sectioning the warp threads with a brocade stick, Guatemala 2002.



Fig 3.12 Inserting the first row of red thread into the sectioned warps, from right to left, Guatemala 2002.



Fig 3.13 The pattern begins to take shape when further rows and different colours are inserted.



Fig 3.14 Bird pattern, detail from Nahuala cloth.



Cruz

Perro

Tinaja

Arbol

rana

Mish

K'ot

Flora

Fig 3.15 Horizontal distance between rows of patterns measured by a hands width. Vertical measurements between individual patterns in a row measured with fingers, in this case, two fingers. Cloth woven under the supervision of Juana.



Fig 3.16 Scarves showing preferred colour sequences. Woven under supervision of Lucia.



Fig 3.17 *Gukumatz* pattern with bright/strong colour combinations.



Templo
Arboles
Templo

Borde
Estrella
Borde

Culebra/
Montana

Flecha

Culebra

Fig 3.18 Colours in cloth woven under supervision of Isabel.



Banda

Unnamed

Banda

Bandera

Tijeras

Tz'kin

Rosa

Banda

Pepita

Banda

Fig 3.19 Colour combinations in cloth woven under supervision of Ana.



Fig 3.20 Related hues. Detail from Ana's *huipil*.

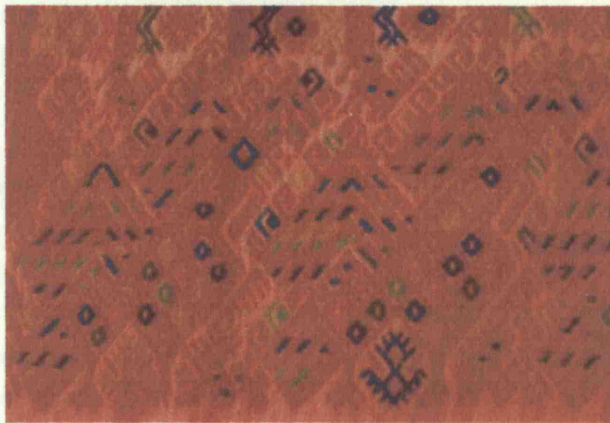


Fig 3.21 Red silk brocade on pink cotton foundation.



Fig 3.22 Natural white silk brocade on white cotton foundation.

Chapter 4

PATTERNS, SYMMETRY AND NUMBERS: MATERIALITY OF RHYTHM

El ritmo and the ontology of numbers

Weavers do not think about patterns as mere representations of thought that are materialised in cloth. Instead, patterns are regarded as *dibujos*, pictures, that have to exhibit symmetry, rhythm and movement.¹ If they exhibit these traits, the patterns are regarded as “proper” patterns. Much like “proper” cloth, the “proper” patterns should be symmetrical and neatly woven into cloth, and show no faults or mistakes in their execution. Weavers describe the importance of symmetry as “if the symmetry is not there then the pattern is not properly done (Isabel) ” and “patterns have to be symmetrical because otherwise they will not look right (Eva).” When weavers talk about “proper” patterns they refer to them as possessing *el ritmo*, which is a term used to describe the rhythm of weaving, as well as the rhythm of symmetrical pattern sequences.

¹ Symmetry analysis offers a way to see certain kinds of regularities in the structure of repeated patterns and it is useful for understanding how arithmetic is conceptualised (Washburn & Crowe 1988, 2004), but it does not pay attention to the materiality of making symmetries. That patterns have rhythm and possess movement was brilliantly explained by Gebhart-Sayer (1985). She shows how patterns used in healing by the Shipibo-Conibo Indians in Peru begin to move around and emit music during the shaman’s performance. In Gombrich’s (1986) seminal study of patterns, he explains that the elusive character of patterns is due to their ability to slow down perception. Because the eyes do not know where to focus, we are forever intrigued by patterns. Similarly, Guss (1989) and Roe’s work (1995) among the Amerindians in South America have noted how patterns on baskets and feather work fool the eye because the different designs shift in and out of focus. Guss explains that image and counter-image are endlessly competing for the viewer’s attention and that some patterns become nearly impossible to view (Guss 1989:121-22, pl 2).

Referring to weaving, *el ritmo* means that a weaver's backwards and forwards movements, and the left and right movements of the arms, are moving rhythmically with the loom parts, like the pattern she is weaving. When *el ritmo* is used to explain patterns, *el ritmo* refers to the regular and graded growth or reduction of the size and shape of the pattern. *El ritmo* means that the symmetry and rhythm of Maya patterns are part of the performative aspect of weaving, in which the shape of the pattern is linked to the structure and movement of the weaver's body.² The term *el ritmo* is also employed when referring to the rhythms of counting, movement, speech, music, and the preparation of maize into tortillas. Weavers explained that to appreciate patterns fully, it has to be understood that the rhythm of patterns is linked to the rhythms of other activities in Maya women's daily proceedings.³ Being able to possess rhythmic grace in different activities suggests that a woman is also able to combine colours into rhythmic sequences in cloth. Therefore weaving patterns

² Gell (1998) developed a theory of pattern and argued that because patterns are always in the process of being possessed, they are by nature sticky, and can function as traps of movement (Gell 1998:74-95). More importantly, Gell started to develop a theory of how patterns in art and movement are linked together by discussing Malakula sand paintings and dancing in the New Hebrides, drawing on work done by Deacon (1934) and Layard (1936). Gell suggests that we should see visual patterns as traces of rhythm which may be very difficult to trace, such as completing a complex figure without hesitation or deviation from start to finish. Important in producing Malakulan sand paintings is the performative aspect, during which the person has to draw a complex figure in a single continuous movement, without hesitation and deviation, from start to finish (cf Gell 1998:93). The tasks of completing the sand painting is complemented by a performance in which neophytes have to dance their way through a human maze to be initiated into the men's cult (cf Gell 1998:94). Gell pointed out that the affinity between Malakula dancing and sand paintings suggests a synergy between art forms and modalities of expression, which are manifested in performance. Along similar lines, Ingold argues that when our bodies perform a task it may be linked with other spheres of activity through rhythm (Ingold 1993, 2000:207,416). Ingold explains how the Saami reindeer herdsman manipulate the lasso to capture reindeer, and he suggests that it is the herdsman's ability to move in a particular way that makes him proficient in certain tasks. It is this gestural rhythm that can be comparable to other activities where bodily rhythm is essential, e.g. proficient tennis players (Ingold 1993). M'Closkey's (2002:237-238) work on Navajo weaving suggests that to understand what weaving means for the Navajo, it is necessary to look for similarities in patterned activities. Navajo weavers and priests both collect and use plants, the priests' sand paintings have to show balance in colour and form similar to that of weavings, and chants have to be learnt whole by priests, as weavers have to learn whole patterns.

³ Recently it has been argued that symmetrical patterns may also pervade certain kinds of behavioural situations (Washburn 2004).

is integrative, because being able to weave rhythmic patterns means that the weaver knows how to perform not only weaving but other activities as well. ⁴

In weaving patterns, it is particularly the rhythmic counting and handling of threads which has to be mastered by weavers. This is crucial because the “properness” of patterns is governed by the relationship between the warp and the weft, the use of one, two, or more colours and a combination of numerical calculations. To be able to construct rhythmic and symmetrical patterns necessitates the weaver’s skill in using different sets of arithmetic calculations. Addition and subtraction is commonly used by Maya weavers when constructing patterns, and patterns can be constructed from sequences of odd or even numbers, or a combination of both.

The addition of several colours into the weave creates more complicated patterns, and symmetry is achieved through regular gradation in growth and/or reduction in brocading patterns. The clue to the rhythm and symmetry of patterns lies in the way brocade thread is counted and arranged in relation to the other colours in the weave.⁵ This suggests that in weaving, mathematical ideas are realised through the handling of threads. Thus, arithmetic concepts are not separated from the human body; instead they are embodied (Ascher & Ascher 1991, Crump 1990, Lakoff & Nunez 2001, Mimica 1988). ⁶

⁴ Already in 1975, Adams drew attention to the linking of activities through sound. In her work on Sumba, she argues that beating and pounding form a link between different activities, such as cloth and food making. The rhythm of patterns is likened to the rhythm of preparing natural brown cotton for spinning. Before the raw brown cotton can be spun it has to be beaten with wooden sticks, in order to get all the seeds out, after which it will be hand spun into thread. The rhythmic beating of cotton creates a musical rhythm, similar to the sounds of weaving, which the weaver’s body adjusts to. Weavers in Comalapa, Guatemala, say that the rhythmic beating of cotton reminds them of the beating sounds of the music played at the *cofradia* fiestas (in Asturias de Barrios 1997:71). In the ceremonies I observed, the sound of the drums is reminiscent of heartbeats, monotonous and heavy. This rhythm assists the monotonous yet rhythmic speech of the religious official leading the ceremony. Ritual speech, which consists of lengthy chants and prayers, has an especially monotonous rhythm, and weavers explained that it is associated with the rhythmic sound the beater makes during weaving, when it is used to push down and seal the weft threads in the warps. During specific ceremonies men guide the process from the beginning to the end through ‘ritual speech’ while women are silent, unless it is an all-female ritual.

⁵ See Young (2003) on rhythm, colours and pattern in Australian Aboriginal bead work.

⁶ Lakoff and Nunez (2001) suggests abstract ideas rise from conceptual metaphor, a mechanism of projecting embodied (sensory-motor) reasoning to abstract reasoning. They argue that conceptual metaphor has a defining role in mathematical ideas within the cognitive unconscious, from arithmetic and algebra, to sets logic to infinity in all its forms,

Weavers explained that it is necessary to understand that the rhythm and symmetry of patterns are constructed from a combination of numbers derived from the Maya vigesimal number system, which is based on the twenty digits of the human body. Isabel "... cuando nosotros contamos, usamos los numeros Mayas, los numeros de cuerpo, porque los dedos son los numeros uno a veinte." A complete human is called *winik* which means twenty, and refers to having a complete set of fingers and toes. The fingers of the hand and the toes of the feet are called the offspring, maize, or the head of the hand/feet. Each number is anthropomorphised and has many semiotic meanings.⁷ The creation of numbers in Maya culture is complex and related to the concept of zero, which is the progenitor of the numbers. As opposed to Arabic numerals, in which zero means nothing, in Maya arithmetic, zero is needed for the existence of the other numbers.⁸ Zero is also related to the existence of time because time is regarded as sequences of numbers which have passed or are waiting to occur in the future from the current moment, now, *wakami*. Yesterday is regarded as one day ago from now, *iwir*, and the day before yesterday is two days ago from now, *kab'ijir*. Tomorrow, *junlaj*, is one day from today, and the day after tomorrow, *kab'ij* is two days from now, etc.

Twenty is applied in counting even numbers, 40 is 2 x 20, 60 is 3 x 20, 80 is 4 x 20 and 100 is 5 x 20. Whereas the counting of odd series of numbers above 20 is rectified with the addition of 10. This means that 30 is counted as 20 plus 10, 50 as 40 plus 10, 70 as 60 plus 10, and 90 as 80 plus 10. The numbers one to twenty are used in association with the day names of the 260 day sacred *Cholq'ij* calendar, which is based on the rhythmic measurements of time and relates to the gestation period of nine months (see Schultze Jena 1982).⁹ The

transfinite numbers, points at infinity, infinitesimals, and so on. Even the real numbers, the imaginary numbers, trigonometry and calculus are based on metaphorical ideas coming out of the way we function in the everyday physical world.

⁷ Sigal's study of the creation of time in Maya culture explains that in the sacred Maya text *The Book of Chilam Balam of Chumayel*, the creation of *uinal*, time, and the calendar places the individual and the human body within their appropriate contexts in Maya society because the creation of time enables the *uinic*, a human, to be born (Sigal 1995:120-129).

⁸ In Urton's work on Quechua numbers he notes that ordinal numbers are conceptualised in positional and hierarchical terms, e.g., the first is younger than its predecessor but older than its successor (see Urton 1997: 66-69). The first number is *mama*, the name of the creator, who gives offspring, *mama* is the thumb and followed by the digits of fingers (1997: 70-75).

⁹ The twenty days of the *Cholq'ij* are divided into sections of thirteen, running consequently from crocodile to ancestors. The first day is called 1 *b'atz*, the second 2 *ee*, the third 3 *aaj*, etc. When the day 13 *aq'abaa* is reached, the numbering starts with the

warp threads that make up, and create, the foundation of cloth, are called *b'atz*, which is one of the twenty days in the sacred 260-day *Cholq'ij* calendar (fig 4.1). The Maya New Year is celebrated on 8 *B'atz*, which is the most important day in the sacred *Cholq'ij* calendar. *B'atz* translates as thread and the day is described as:

This symbolises time. Our Maya ancestors depicted time as a bundle of cloth, which began to unroll when they left earth. This thread is unrolling as life progresses. History is woven with time just as cloth is woven with thread (Agenda Maya, 2002).

The unrolling of thread during weaving is thus part of the cyclical nature of Maya timekeeping and linked to creation. The number twenty is used as an arithmetical ideal in warping threads and the warp threads have to be counted and divided into sections of twenty *pulgas*, sections of warp threads, as the warping proceeds. In Ana's community, the warp is divided into thirteen sections of twenty pairs of threads before the weaving proceeds (see fig 3.6), which parallels the 20 days and 13 months of the *Cholq'ij*. Weavers regard twenty as an important and aesthetic division of the warp threads and consider it a good width for the finished cloth.

fourteenth day name, but with the number 1, e.g. 1 *k'at*, 2 *kaan*, 3, *ajpuu*, etc. The *Cholq'ij* runs parallel with the *Aab* calendar which is divided into periods of 20 days in eighteen months to make up 360 days. The last 5 days are regarded as a dangerous time and caution is taken when performing daily activities. The *Cholq'ij* calendar is commonly used to divine the destiny of a person through analysis of the individual's birth date, which consists of the combination of the day name and the day number. This information is used as a guidance and prophecy to understand the behaviour and personality of the person (Monaghan 1998). Each day of the *Cholq'ij* requires offerings to the particular day to preserve the order in the universe. Each community may have one or several day-keepers, or calendar priests, who have the obligation to ensure that the calendar does not stop running by performing daily sacrifices of incense, flowers, liquor, tobacco or chocolate. The number twenty is also used by Maya sacred diviners when they divine by counting beans in groups of four in five separate groups and in five rows, based on the day names of the *Cholq'ij* (see Colby 1981, Tedlock 1982). The ability to perform ritual counting is essential for the calendar keepers just as the counting of threads is important for Maya weavers. I am indebted for my knowledge of the *Cholq'ij* calendar to Juan and Miguel Leon Cortes of Chichicastenango.

Pairs, threads and social reproduction

Maya weavers' concept of numbers is motivated by rectification, similar to what Urton found in his work with Quechua weavers in the Andes (Urton 1997). Quechua weavers re-create the cosmos during weaving because pattern formulas are based on the ordering of the world through anthropomorphised numerical computations associated with creation, kinship and socio-religious relations. Philosophical principles underlie arithmetic as an art of rectification, where subtraction or addition maintain, and/or regain, a state of balance, harmony and equilibrium (Urton 1997:100).¹⁰ In Maya weaving, the growth and reduction of patterns are determined by counting the warp threads in pairs, one thread at the front warps, and one at the back warps. It should be noted that one warp thread is actually made up of two threads, and the counting of one at the front and one at the back is counted as one, because they have to be counted in pairs. In reality, four warps are counted.

The counting of warp threads *in pairs* is crucial because this is both a practical act governed by the way the weave is structured, and also a symbolic act which recreates ideal social structures. Two pairs of warp threads need to interlock with another two pairs of warps to create the shed, which enables the weft to be pulled through, which creates the weave. Therefore the pairs of warps cannot exist without the weft which connects and keeps the weave together. Losing a pair of warps results in losing the structure of the weave. The pairing of warp threads is described by the weavers as the pairing of women and men, and the two threads together are called *kulaj*, a couple. Ana explained: "Los hilos contamos en parejas, una pareja en la frente y una pareja al lado ... es necesario contar los hilos en parejas porque una pareja es como una mujer y un hombre juntos ... nadie quiere vivir sola."

Weavers explained that it is important to understand that counting in weaving is extrapolated into other areas of everyday life. Counting in pairs is employed in everyday situations; tortillas, fruit, vegetables, and even people are counted in pairs (Mucia Batz 1996:41). The counting of persons, things, and warp threads in pairs reflects the way in which the Maya world is seen as a place of two things that interlock, layer after layer. During weaving, several pairs of warps are interlocked and create cloth, while in Maya society several pairs of women and men are interlocked to create the foundation of social structure.

¹⁰ With the Quechua certain things cannot be counted because enumeration or counting represents a force of alienation, e.g. herds of animals, and undermines the reproductivity of the group as a whole through numerical separation (Urton 1997:101-103). In textiles, warp and weft are fine to count because they are a unity in a group that is inseparable and don't threaten reproduction.

The application of colour adds another dimension to the weave, and in Maya weaving it is the weaving and counting of different-coloured threads that rectify the world-view and tie kinship together. The interweaving and counting of different coloured threads during weaving is explained as a way to use both female and male elements in the weave. Traditionally, the warp threads used in backstrap loom weaving are made stronger and harder by soaking them in maize gruel, *atole*, while the threads for weaving the patterns are left untreated. This makes the structural quality of the warp and the weft stand in opposition. The hard, tough warp threads which are counted in pairs create the foundation of the cloth and are opposed to the overlying soft brocade threads, which are counted in odd number sequences. Ana explained that the use of matte warp threads, which are overlaid with shiny brocade threads is analogous to the pairing of grandmother and grandfather, who are conceptualised as the moon and the sun by the weavers. The matte grandmother of the moon emanates a sheen different from the strong hot grandfather sun. This is analogous to the cultural conceptualisation that Maya men possess more *poder*, power, and bodily heat than Maya women.

In weaving patterns, the direction in which the pattern thread is applied is crucial, as weavers regard this as establishing the correct path in the weave. The first row in the weave has to be woven from right to left; e.g. the weft thread was passed through the shed from the right to the left. The first row of any pattern also has to be applied from right to left.¹¹ Because the pattern thread is applied around and through the pairs of warp threads, this thread connects and keeps the structure of the weave together. Ana explained that weaving is going from the male right to the female left and vertically from matte female foundation threads to shiny male brocade threads. Weaving from right to left passes the thread from the male sphere into the female, and then back again, continuously re-weaving the passage of the sun and the moon. Therefore the continuous weaving of patterns is thought to re-establish the Maya world order, which should be kept in rigorous symmetry for the world to function properly, just as a complete human being should function properly when all limbs and digits are present.

¹¹ The directional act of spinning can reflect cultural values, see Minar (2000).

PATTERNS, COUNTING AND PERSONHOOD

The structure of the backstrap loom makes it possible for Maya weavers to create individualised patterns that express, firstly, community specificity, and secondly, elaboration of this by weavers applying their own style. There are two types of patterns: the first type is static, and the second type is transformational. Static patterns are constructed from the warp threads (warp faced patterns) and they can consist of solid colour stripes of varying width or of abstract or figurative patterns created with *jaspe* (tie-dye) warp threads. The size and shape of warp-faced patterns have to be planned before weaving takes place because the threads have to be warped in the required pattern sequences on the warping board. This sequence has to be kept when warping the threads so that the patterns will not disappear. When the warp threads are taken off the board and set on the loom, they remain in the pattern sequence throughout the weaving process.

The second, transformational types of patterns are constructed by *brocado* or brocading, such as adding a brocade weft thread around selected sequences of warps during the process of weaving. Unlike the warp-based patterns, brocade patterns can reduce or grow in size by manipulating the length and position of the brocade thread in the warps; thus the patterns are transformational. Using the brocade technique, the pattern appears as if it is embroidered on top of the cloth, but it is actually an integral part of the weave. There are several *brocado* techniques which a weaver can use. These are the single-faced, two faced, and double-faced techniques. The single-faced pattern can only be seen on one side. In the two-faced technique, the brocade thread creates an underfloat on the reverse side of the cloth along with the design being formed on the front of the woven piece. Using the double-faced technique, the pattern is visible on both sides of the cloth.

When weaving brocade patterns, the technique requires the counting and separation of the warp threads with the fingers, the bodkin, or a brocade stick, into front and back sections. This creates the shed through which the brocade thread is pulled. The brocade patterns are made one row at a time, with a gradual horizontal build up. Therefore the weaver has to know the arithmetical structure of the pattern in order for the pattern to emerge in its proper shape. The process is increasingly difficult as more colours are introduced to create more complicated patterns. The placement of colour in repeated sequences creates a series of relationship of corresponding points so patterns are created.

12

¹² Alexander (1993) has demonstrated how colour constructs patterns.

Lucia and warp-based patterns

Lucia prefers to weave warp-faced vertical stripes of varying width into cloth. The vertical stripes are created by warping different coloured threads on the warping board in desired sequences. The size and shape of the stripes are decided before the actual weaving starts. Lucia taught me two different warp faced patterns, both of which use one colour as the main element which is supplemented by three other colours. I was free to choose the colours, but it was Lucia who determined the combination and pattern count of the colours in the weave.

For the first cloth I chose purple as the main colour and blue, red and green for the complementary colours (see fig 3.16). Lucia advised me that these have to be warped in a sequence of 15 purple threads, 6 blue, 6 red and 6 green. This sequence was repeated six times, and for the last set of threads 15 purple threads were used for a symmetrical finish. For the second cloth I used blue as the main colour and green, red and white. This time the threads were warped in the sequence of 15 blue, 3 green, 3 red, 3 white, 1 blue, 3 white, 3 red, 3 green on the warping board. This sequence is repeated six times and finished with 15 blue threads for symmetry.

Fig 4.2 The warp count for the first cloth I wove with Lucia. See also figure 3.16.



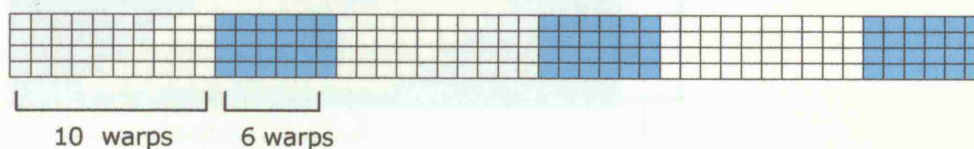
Lucia explained that in the construction of patterns, numbers and colours have to be complementary because they cannot contradict each other. This is why she uses a combination of 15 and 6 and 3 threads in different colours, as this achieves the desired symmetrical effect. The main colour has to be constructed from 15 threads because it is conceived of as 7 threads, then 1 thread as the centre and then another 7 threads to complete the sequence. The sequences of 6 threads are thought of as 3 and 3, which equals 6, while the sequence of 3 threads is thought of as 1 thread to start with, 1 thread for the centre and then 1 thread to complete the sequence.

Isabel and double-faced patterns

Isabel weaves cloth that has warp-faced stripes combined with double-faced patterns, and she uses the brocade stick and the freehand brocade technique. Isabel taught me two types of double-faced brocade patterns. The first type is brocaded across the width of the warp, so that the warps are covered with the brocade thread. The second type comprises free-standing individual patterns which are repeated individually across the width of the warp. The free-standing patterns are constructed with the double-faced brocade technique, and this makes the reverse side of the pattern a mirror image of the front. In the double-faced brocade technique the brocade threads are wrapped *around* the warps; in this way they are encasing the warps threads in sections so that the image is visible on both sides. For this cloth, I chose purple as the ground colour, white for the vertical stripes, and pink, red, blue, light blue, white and green for the brocade patterns. The warp threads for the ground weave, the *fondo*, are laid out in a sequence of ten purple threads followed by one white thread for the *rayo*. This sequence is repeated thirty-one times, and ten purple threads are warped as the finishing edge.

One of the simpler patterns Isabel taught me to brocade across the whole width of the cloth is in the shape of blue and white stripes which she calls *borde*, border. The pattern is made from applying blue thread in sections of six warp threads, while white thread is applied in sections of ten warp threads. When the first colour, blue, is pulled through the shed into sections of six warp threads, it creates spaces for the second colour, white. Because this pattern continues across the width of the cloth, the distance between patterns does not have to be considered.

Fig 4.3 Numbers and colour count of the *borde* pattern. See also figure 3.18.

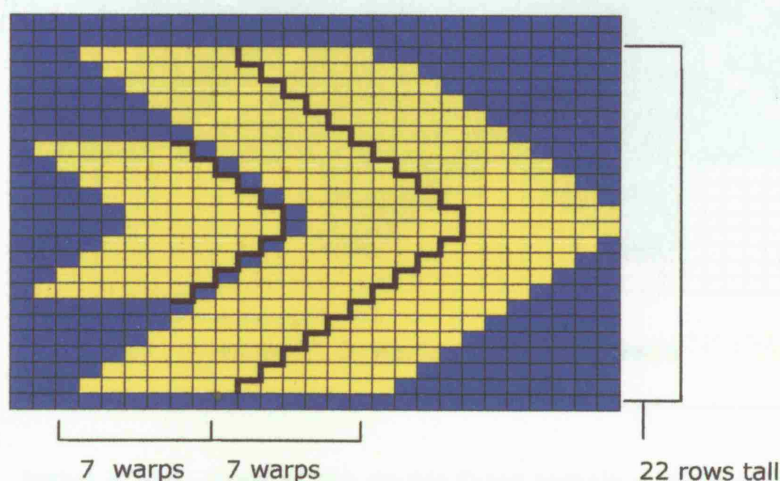


However, when weaving free-standing patterns, the distances between the patterns have to be measured. One of the free-standing patterns Isabel taught me is the *flecha*, arrow, pattern, and she showed me how to use different colours to make eight separate arrows across the width of the warps. The arrows are placed in a sequence of red, blue, beige, light blue, green, pink, blue and red, from right to left. The first row or the base of the *flecha* pattern, is

approximately fourteen warp threads wide, made in two sections of seven warp threads each. The arrows are double-sided because the brocade threads are wound around the warps and this makes the pattern appear at the front and the back of the cloth.

After the red brocade thread for the base of the first arrow is placed in the warps, the distance to the next arrow is counted with the eye. Then the blue brocade thread is wrapped around the warps in two sections of seven threads each. This procedure is repeated for the white, light blue, green, pink, blue and red arrows. In the next row, the warp threads are counted by adding one warp thread to the right side of an arrow, and subtracting one from the left side of an arrow. This is repeated in the next ten rows. This pattern is not growing or shrinking in size, it is changing direction. This occurs at the eleventh row when the warp threads are counted by adding one to the left side and subtracting one from the right side. At the seventh row a third element is introduced to the left-hand side of the pattern. This is seven threads wide and ten rows high and it follows the structure of the main element of the arrow. The height of the arrow pattern is twenty-two rows high.

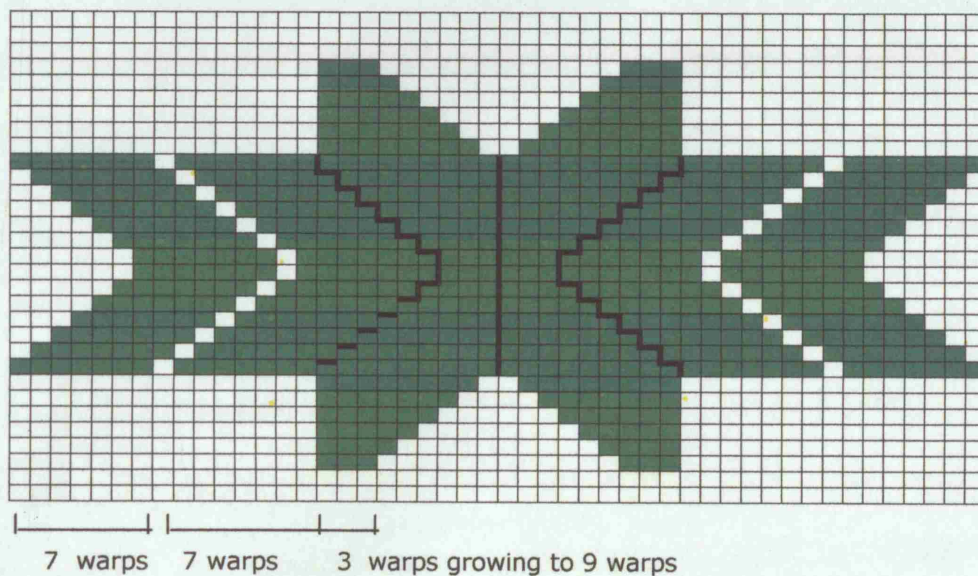
Fig 4.4 Pattern count and colours of the arrow pattern. See also figure 3.18.



Free-standing patterns can contain several elements, all of which have to be considered when deciding where to place the patterns in the warps. The *estrella* or star pattern which Isabel taught me, comprises six separate elements. Isabel explained that because it is multi-elemental, it is "... good to learn pattern structures with." The main elements of the star pattern consist of two spines

and it has two elements added to the sides of the spines to make spikes. Isabel measured the width of the star patterns with her fingers across the warps and explained that five stars would fit across the width of the cloth. She decided that the colour sequence should be pink, blue, white, red and green. Isabel began by showing me how to put in the pink brocade thread for the base of the first star, which is six warp threads wide, divided into two sections of three warp threads. After the first star is made the distance to the next star is counted as thirty-four warp threads. Then the exercise is repeated for the blue, beige, red, green stars. In row two, the centre spines grow by adding a pair of warp threads to the insides of the spines, and this continues until row seven. In row seven the side elements, which create the spikes at the right and left sides of the central spine, are added. They are fourteen warp threads wide, wrapped in two sections of seven warp threads each, and they end at row nineteen. The star pattern is twenty-six rows high.

Fig 4.5 Pattern count and colour interaction of star pattern. See also figure 3.18.



Isabel is very proud of the double-faced technique since it is a technique that she masters particularly well. She also likes to have patterns on both sides of the cloth, because this makes the cloth functional on two sides. Despite this, the side I look at when I weave is the side that should be displayed in public, because it is the top side of the cloth.

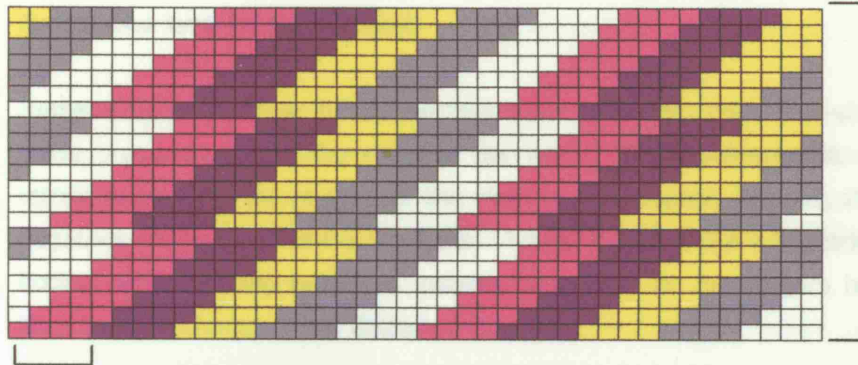
Ana and *espaditas*

The cloth I wove with Ana is composed of horizontal rows of abstract patterns, and two rows of free-standing patterns. The structure of the abstract patterns interlock but still stand separately because of the different colours, thus creating a flowing rhythm. The rows of abstract patterns are created by using Ana's community-specific technique of inserting two supplementary brocade sticks, *espaditas*, in the loom. She also uses a bodkin to pull the threads through the shed. The two *espaditas* divide the warp threads into sections of five warp threads each by lifting them up from the normal warp sequence. The sections of five warp threads make it possible to brocade very symmetrical patterns across the width of the warp because the sectioning of the warp threads has already been done. During weaving, the two *espaditas* change the position of the sectioned warp threads so that in every row, the fifth warp thread is positioned in the centre of the five-warp section of the previous row. This sectioning allows the patterns to grow or to reduce in size in symmetrical five-thread sections throughout the weaving process.

When brocading patterns with this technique, the whole width of the warps can be used in creating rows of symmetrical patterns. Alternatively, sections of the separated threads can be used to make patterns of equal size with equal distances without having to count each thread separately. This technique seals the brocade thread in the warp and the patterns do not show at all on the reverse side of the weave. The technique of using the two *espaditas* also makes the weaving of brocade patterns faster because each warp thread does not have to be counted individually.

The *pepita* pattern is constructed of thirteen separate parts in a colour sequence (from right to left) of white, grey, beige, purple, cerise, white, grey, beige, purple, cerise, white, grey and beige. Each different-coloured pattern is constructed of three elements and each element is seven rows high, which makes a total of twenty-one rows (fig 4.6). The base of each separate pattern is twenty warp threads wide. The pattern changes direction to the right by adding five warp threads to the right-hand side and subtracting five warps from the left-hand side. At the eighth row, the colours are pushed twenty warp threads to the left; this shift is what makes the *pepita* pattern appear. The colours continue to follow the twenty-warp thread width with a movement to the right by subtracting five warp threads from the left-hand side and adding five to the right-hand side. At the fifteenth row the colours are pushed twenty warp threads to the left again.

Fig 4.6 Pattern count and colour interaction of the *pepita* pattern. See also figure 3.19



20 warps

21 rows tall

The *tijera* or scissors pattern is also constructed with the same technique and consists of eighteen elongated s-shapes brocaded in a colour sequence of white, yellow, grey, cerise, purple and white (see fig 3.19). The pattern grows in each consequent row with a gradation to the right by adding five threads to the right and subtracting five from the left side. At the ninth row, the pattern changes direction and begins to grow with a gradation to the left with five warps added to the left side and five warps subtracted from the right side. At the sixteenth row it changes direction again and it changes back into the right direction by adding five threads to the right and subtracting five from the left side. The scissors pattern is twenty-three rows high.

Ana also taught me how to brocade two double-faced patterns, *rosa* and *tz'ikin*, bird, using the bodkin; previously I had only used my fingers when brocading double-faced patterns (see fig 3.19). Before the weaving starts of double-standing patterns, one of the *espaditas* is removed from the loom, so that the warp threads can be counted separately. The first stage in weaving the *tz'ikin* is to place the feet and the tip of the wings of each bird in the warp. The feet are two warps wide and made in three sections, with spaces of two warps in between. The tip of the tail is six warps wide and wrapped in three sections of two warp threads. The distance between the feet and tails is fourteen warp threads. The distance between each bird is twenty-six warp threads. The wings of the bird grow to the right by subtracting warp threads at the left side and adding warp threads to the right side. The legs are made by adding rows of three warp threads' width onto the feet until the sixth row, when the body of the bird begins. The wings, the body, and the head follow the structure of the warps

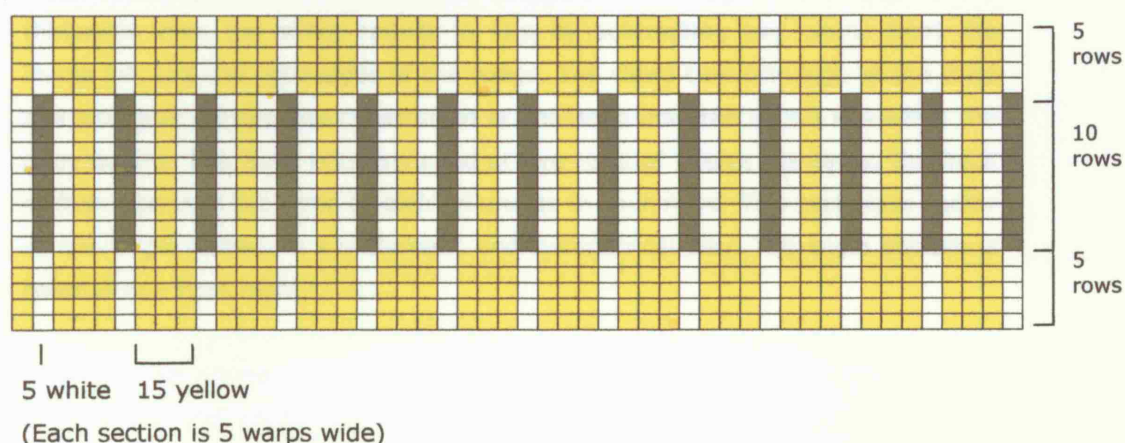
when brocading their shapes. The bird pattern is nineteen rows high and it is brocaded in purple, yellow, cerise and grey, whereas the wings are brocaded in white.

Juana and two-faced patterns

Juana taught me how to weave two-faced patterns, both free-standing and those brocaded across the width of the warps. These patterns do not leave a mirror imprint on the reverse of the cloth as with Isabel. Instead, they leave a negative image of thread underfloats. Juana does not use a brocade stick or a bodkin when making patterns; instead, she relies on her fingers because she likes to be in charge of the threads manually.

One of the patterns brocaded across the width of the warps is the *flora* or flower pattern. It is constructed by counting the warp threads into sections of five warp threads each and thereafter pulling the brocade thread through the shed using the fingers. First, the white brocade thread is pulled through in sections of five warp threads at the front and fifteen warp threads at the back. The yellow thread is pulled through the fifteen warp spaces left by the white thread, but wrapped around parts of three sections with five warp threads each. This is repeated in five rows.

Fig.4.7 Pattern count and colour of the *flora* pattern. See also figure 3.15.



At the sixth row there is a change in the pattern. The white brocade thread is pulled through a sequence of five warps at the front, and five warps at the back. The yellow thread is pulled through the five warp widths at every fourth section of five warps. It is the absence of the yellow thread in the weave that makes the

flora pattern come out. This is repeated for ten rows. At the sixteenth row, the pattern changes back to the same structure it had in the first five rows; that is, the white brocade thread is pulled through five warp threads at the front and fifteen warps at the back. The yellow thread is put in the spaces left by the white thread in sections of fifteen warp threads divided in three sections with five warp threads each. The total height of the *flora* pattern is twenty rows.

Of the free-standing patterns Juana taught me, *k'ot* or eagle is exemplary in understanding her pattern technique (fig 4.25). The *k'ot* is constructed using the free-hand brocade technique, which consists of counting and separating the warp threads with fingers, and pulling the thread through the shed with the fingers. This technique is meticulous because the warp threads have to be carefully counted as the pattern is very delicate in shape. When planning the first row of the eagles, the size of the eagles and the distance between the individual eagles have to be counted with the help of the *pulgas*, the sections of 20 threads. In the first row of the eagle pattern, the claws of the feet and the tips of the wings are brocaded. The tip of the wings is one warp thread wide, and the distance from the wings to the claws is eight warp threads. The claws are constructed of four one-warp threads, with one warp space in between. Before the thread is wound around the warps, each separate brocade thread is knotted in a loop around the warp thread to secure it in the weave.

The distance to the next eagle is twenty-six warp threads. The wings and claws are brocaded in the same way for each of the eagles and they grow by adding two warps threads to the inside left and right of the wings, until the eighth row when the body is introduced and the wing follows the edge of the body. At the thirteenth row, the wings reduce in size by subtracting two warps from the inside left and the right sides of the wings. The claws turn into legs at the third row and then the legs are constructed of one warp until the eighth row when the body begins. The body is constructed of five rows of twelve elements, the neck of five rows and the head of eight elements in four rows. This technique builds up the eagle pattern in a systematic and symmetrical way. The eagle pattern is twenty- one rows high.

Rosa and complex patterns

In Rosa's community, weavers use the brocade stick for weaving patterns. Rosa explained that for her, using the brocading stick is essential in counting the warp threads because it aids the rhythm of the pattern. Her community-specific patterns are created from small rhomboids called stars, which together form larger patterns. These can be woven in black or red against a pink-red or white foundation or more recently in turquoise, or yellow, over a white foundation (fig 2.4). The diamond shapes are placed in the weave as individual stars, or they are placed in clusters to create larger patterns, e.g. different animals, lions, cats, and birds.

One of these is the *Gukumatz* pattern, which Rosa taught me to brocade using the six colours of red, orange, yellow, blue, green and the white of the weft and warp (figs 4.8-4.9). Learning to weave the *Gukumatz* pattern is an ideal way to learn how patterns are structured from the intricate relationship of numbers and colours. It is an incredibly complex pattern with numerous components and exemplifies a technique using several colours to create larger patterns. The main colour of the pattern is red and the sequence for this is counted and separated with the brocade stick, after which the other colours are put in the spaces left by the red thread by hand.

The first row of the *Gukumatz* pattern is created from the red brocade thread, which is put in a sequence of 3 warps, space of 1 warp, 3 warps, space of 1 warp, 3 warps, space of 1 warp, 5 warps, space of 5 warps. Then the foundation for the three consecutive pyramids are put in a sequence of 5 warps, space of 5 warps, 5 warps, space of 1 warp, 3 warps, space of 1 warp; this is repeated 8 times, then the brocade thread continues in 5 warps, space of 5 warps. This whole sequence is repeated twice for the next two pyramid shapes as well. In row two the red brocade was put in again first by following the red pattern from the previous row. The pyramid shapes are reduced in size by subtracting one warp from the outer left and right sides and by adding one warp thread to the inner left and right hand sides.

After this the additional colours are put into the warps. They are secured by a knot around the warps and then brocaded freehand. Because the red brocade thread has been brocaded first, it creates the frame into which the other colours will be brocaded. The blue brocade thread was put in first, from right to left, in 3 warp widths, a space of 1 warp, then 2 warp widths, so that the blue is flanking the right side of the pyramid. Orange was put in next, on the left side of the pyramid, in a sequence of 2 warp widths, a space of 1 warp, then 3 warp widths, flanking the left side of the pyramid. Green is put on the right side of the next pyramid in a sequence of 3 warp widths, a space of 1 warp, then 2 warp widths,

flanking the right side of the second pyramid. Yellow was put in next, on the left side of the pyramid, in a sequence of 2 warp widths, a space of 1 warp, then 3 warp widths, flanking the left side of the second pyramid. Then, the third pyramid has blue in a sequence of 3 warp widths, a space of 1 warp, then 2 warp widths and on the other side, orange is put in a sequence of 2 warp widths, a space of 1 warp, then 3 warp widths.

In the consecutive rows, red remains the main colour despite the reduction of the pyramid shapes. The other colours grow until they are four rows high; after this a colour change occurs. The blue is replaced by orange, the orange replaced by green, the green by yellow and the yellow by blue. The rhomboids are introduced in row four, and made in blue, green and blue with a red centre. Because I forgot to make the base for the rhomboid at row fourteen, the pattern went wrong. I did not realise this until I had brocaded too many rows past the initial stage of the next row of the rhomboids and it was too late to correct my error. Thus I was left with blank spaces in the weft where there should have been a row of six rhomboids. The use of six different threads - the white weft thread, the red brocade, the blue, green, yellow and orange brocade threads - made this the most complicated technique I learnt so far. Keeping count of all the threads and not forgetting them from the sequence was difficult, because I had not previously used this many threads when brocading in this technique.

Arithmetic and control: pairs, odd and even numbers

The comparison of weaving techniques from five Maya communities shows that counting differs according to pattern technique. It also reveals that the most important aspect of weaving patterns is the symmetrical growth and reduction of patterns, and that this is independent of technique. Thus, despite the community-bound technology of pattern weaving, there are visual and tactile characteristics of patterns that connect communities (fig 4.10). Juana works in number sequences of fives for the horizontal patterns, such as the *flora* and the *cruz*. Ana also uses five warps as a base unit in weaving the rows of abstract patterns such as *pepita* and *tijeras*, with the *espadita* technique. For both weavers, patterns grow and diminish in size when five warps are added or subtracted in each row of the weave. But Juana uses her fingers for pulling the threads through the weft, whereas Ana uses the *espadita* technique to change the position of the warps in every row.

Juana's and Isabel's horizontal rows of continuous patterns are based on a combination of odd and even numbers. The patterns are vertically constructed in even numbers, whereas the horizontal construction is made from odd numbers. Juana's *flora* is 20 warps tall but sectioned in 5 warps horizontally. Isabel's

culebra is 6 rows tall, but based in 3 and 7 warps horizontally. However, when Juana weaves free-standing patterns, the combination of odd and even numbers is reversed. The base unit can be constructed from even numbers but the vertical height is odd-numbered. For example, Juana's *k'ot* is 21 rows tall, but the body is a mixture of odd and even numbers. In comparison, Isabel's free-standing patterns are based on even numbers vertically and odd numbers horizontally, such as the *flecha*, which is 22 rows tall but made in sections of 7. Rosa uses only odd-number sequences in weaving patterns; because the patterns are so dependent on each other, they have to be constructed from odd-number sequences as this allows the maximum control of symmetry effect.

Colour changes and symmetry effect

To achieve rhythm in the cloth as whole, the weavers employ colour changes within the rows of patterns to emphasise symmetry.¹³ In the cloth I wove with Juana, the colour sequence of the free-standing patterns is repeated in every fourth row of the patterns. The colours in the row of eagles are peach, yellow, white, and orange, and when reaching the sixth row of free-standing patterns this colour sequence is repeated. The change of colours in the consecutive row is accomplished by changing a pair of colours, and the order of colours within the pairs.

Figure 4.11 Colour change in patterns with Juana. See also figure 3.15.

Pattern	Colour sequence
<i>cruz</i>	White and yellow
<i>perro</i>	White orange peach yellow
<i>tinaja</i>	Peach yellow white orange
<i>arbol</i>	Orange white yellow peach
<i>rana</i>	Yellow peach orange white
<i>mish</i>	White orange peach yellow
<i>k'ot</i>	Peach yellow white orange
<i>flora</i>	White and yellow

¹³ Colouring of patterns is not always consistent with symmetry (Washburn 1988).

The colour sequence of the *mish*, cat, pattern has to be changed so that the colour pairs of white and orange, and peach and yellow are opposite the colours of peach and yellow, and white and orange of the *k'ot* pattern. To alter the colours in the *mish* pattern necessitates that the colour pairs in the sequence of the *rana*, frog pattern are changed so that they are opposite that of *mish*. This alteration is carried out in each consecutive row. The two horizontal patterns at the beginning and the end of the cloth are made from two colours, white and yellow, and these colours are regarded as framing the cloth.

With Ana, the colour alternation is cleverly used in the parts of the abstract patterns. The colours are combined in alternating sequences in each row. In the *pepita* pattern the sequence of beige, grey, white, cerise, and purple determines the placement of the other horizontal continuous patterns. This sequence is altered in the *tijeras* pattern so that the colour pairs of grey/beige, and purple/cerise are on opposite sides.

Figure 4.12 Colour change in patterns with Ana. See also figure 3.19.

Pattern	Colour sequence
<i>banda</i>	Cerise
<i>unamed</i>	Beige White Purple Cerise Grey
<i>banda</i>	White
<i>bandera</i>	Purple White Grey Beige Cerise
<i>tijeras</i>	Grey Beige White Purple Cerise
<i>ts'ikin</i>	Grey Cerise Beige Purple All with white wings
<i>rosa</i>	Purple Beige Cerise Grey All with white centre rhomboid
<i>banda</i>	White
<i>pepita</i>	Beige Grey White Cerise Purple
<i>banda</i>	Cerise

In the two rows of free-standing patterns of *rosa* and the *tz'ikin* patterns, white is used as a unifying colour to stabilize the patterns. The colours of the *tz'ikin*

change place so that they stand in opposition to the *rosa* pattern. The horizontal *banda* patterns are made from two colours which frame each section of the cloth and are necessary to hold the colours in balance.

Isabel uses specific colours to accentuate other colours and to create symmetry in the cloth as a whole. The first *culebra* pattern is made from beige and green, and frames the *flecha* or arrow patterns in red, blue, pink, green, light-blue, beige, blue, red. The second *culebra* or *montana* is made in red and blue, because the colours moving up the cloth have to be brighter. Both *borde* patterns are made from white and blue; whereas the first one is made from white and blue, the second one has reversed colours and a lighter blue. This change emphasises the position of the *estrella*, star patterns.

Figure 4.13 Colour change in patterns with Isabel. See also figure 3.18.

Pattern	Colour sequence
<i>templo</i>	Blue White
<i>Arboles</i>	White Purple Green Light-blue Pink Blue Red Beige Blue
<i>templo</i>	Blue Red
<i>borde</i>	Light-blue White
<i>estrella</i>	Green Red Beige Blue Pink
<i>borde</i>	White Blue
<i>culebra</i> , <i>montana</i>	Red Blue
<i>flecha</i>	Red Blue Pink Green Light-blue Beige Blue Red
<i>culebra</i>	Beige Green

The first *templo* pattern is created from blue and red, which emphasises the blue and white of the second *templo* pattern. The far left *arboles* pattern has the same colour sequence of red, beige, and blue as the three centred *estrellas*, while this colour sequence is changed in the three left-hand side arrows to white, blue and red.

***Los ancianos* versus modern patterns**

Weavers make a clear distinction between old and new patterns. Patterns that are defined as old patterns are called *los ancianos*, the ancients, which refers to the Maya ancestors. These patterns are abstract and governed by bilateral symmetry, and they are thought to correspond to the world order established by the ancestors. *Los ancianos* are considered perfect because of their symmetrical shape. Therefore it is necessary that the weaver has full control of both warp and brocade threads to be able to construct symmetry and rhythm and to complete an acceptable form. New patterns, *dibujos nuevos*, are those of more naturalistic shape, such as the cat and dog patterns Juana taught, and the bird pattern Ana taught me. *Dibujos nuevos* don't have bilateral symmetry, but they have to exhibit controlled growth and reduction in size through addition and subtraction of threads and colours.

Bilateral symmetry is prevalent in patterns based on the rhomboid or diamond shape, which is one of the most important of the *los ancianos* patterns.¹⁴ The structural build-up of the diamond shape is rigorously gradual and extends in equal parts from a central axis. Weavers explained that *los ancianos* patterns are based on the human body, with equal parts extending from a central axis. The structure of the body in Maya society is conceived of as consisting of four quadrants, left and right, front and back, which extend from a central axis, and that these quadrants correspond to male and female qualities (Gossen 1970, Hanks 1990, Tedlock 1982). The symmetrical shape of the rhomboid is used as a template to create other shapes such as the *Arco Maya*, the *tinaja*, the turtle, and the tree. To achieve balance in these patterns, the warps, which are based in paired threads, are overlaid and interwoven with brocade thread in odd number sequences.

One version of the rhomboid/diamond pattern is twenty-four rows tall, and twenty-three warp-pairs wide at its widest point (fig 4.14). The pattern is constructed from wrapping the brocade thread around one pair of warp threads

¹⁴ Asturias de Barrios (1994:185-87) also reports that weavers and cloth sellers in Comalapa and Guatemala City use the term *rombo*, rhomboid, when they talk about the diamond shape. The diamond, or rhomboid pattern, is a direct material translation of the spatio-temporal order of the Maya world which is visualised as a diamond shape (see Leon-Portilla 1988, Montolou Villar 1989, Sosa 1989, Watanabe 1983). The stepped fret, or *Arco Maya* pattern, is the materialisation of the thirteen heavens and the nine underworlds which the Maya conceive of as steps. The heavens have six steps rising to a platform (seven), then descending six (equals thirteen) while the underworld holds five steps descending to a platform (number six), then ascending five (equals nine).

in the first row, and in consecutive rows increasing the size by adding one more pair of warp threads to each side, e.g. in the second row the brocade weft is wrapped around three pairs of warps. The size of the pattern increases in odd numbers in each consecutive row; e.g., in the third row the pattern is five thread pairs wide, then seven, nine, eleven, thirteen, until it reaches the twelfth row. Now it has a width of twenty-three warps and has reached its broadest point. After this, a second row of twenty-three warps is made. This is regarded as putting the pattern in place, since the upper part of the pattern has to be a mirror reflection of the bottom part, each made from equal parts. Then the pattern shrinks again, from twenty-three, twenty-one, nineteen, seventeen, etc. To complicate matters, this pattern has an inner core, which also has to be woven simultaneously, and added curls which have to be added as the weaving proceeds.

The *rosa* pattern which Ana taught me is based on the rhomboid (fig 4.15). It is constructed of two separate patterns, a rhomboid centre and surrounded by stepped frets. The base of the *rosa* pattern is made from an extended stepped fret which is twenty-five warps wide. The stepped fret reduces in size with the subtraction of five warps in consecutive rows until there are only five warps left at the fifth row. At the sixth row the stepped fret has grown to forty warp threads' width, and at this stage, two stepped fret structures are extended to the left and the right in sequences of fifteen, ten and five warps to frame the centre rhomboid. The centre rhomboid is introduced in the ninth row. The base of the rhomboid is five warps wide and grows with five warps added to each side until it is twenty warps wide; then it diminishes with the gradation of fifteen, ten and five warps and finishes at row sixteen. The total height of the *rosa* pattern is twenty-four rows high.

Another example is the turtle, *p'etz*, which is a well-structured, geometric pattern (fig 4.16). It is increasingly difficult to count the warp threads when weaving this pattern because it is so delicate, and the slightest fault in counting the threads would make the shape wrong. The turtle is brocaded from two different elements; the outer diamond-shaped body and the inner, diamond centre, which is the carapace of the turtle. In the first row of the turtle pattern, the tip of the legs and the tail are placed in the sequence of three warps, three spaces, three warps, three spaces. In the second row the tails remain in the same three warps width while the legs grow in both left and right with two warps' width.

The curve of the legs, which starts at the third row, has to be brocaded simultaneously with the tail. In the fourth row the body begins in three warps' width, one space and then three warps' width. The body grows symmetrically by adding spaces of unbrocaded warp threads in the centre; e.g., in the first row of

the body, row four, the space is one warp thread width, then the next is three, then five, seven, nine and another nine. After this, the space reduces in size again until it reaches one at the fourteenth row where the neck starts. The neck is a repetition of the tail, three warps wide and the head is a smaller version of the body. The rhomboid, i.e., the carapace, in the centre of the body begins at row five with one warp thread width; it grows symmetrically by adding one warp thread to each side until row ten when it starts to reduce in size. The rhomboid and the lines of the body are in relation to each other so their brocade threads have to be equally distanced from each other to make the perfect shape. The complete height of the turtle is twenty-one rows, and the reverse side of the turtle is the negative image of the front.

In comparison, *dibujos nuevos*, new patterns, such as the dog pattern I learnt from Juana are constructed from several elements that do not exhibit bilateral symmetry (fig 4.17). The dog pattern is constructed of several different parts which are interrelated. The dogs are put in the colour sequence of yellow, peach, orange and white. In the first row of the dog pattern the tip of the feet are put in a space of five warp threads, and then the sequence of one warp thread width, one warp thread space, repeated four times again. The distance to the next dog's feet is thirty-five warps. The sequence of the feet is repeated in the next row. In the third row the legs begin; they are three warps wide each and brocaded in this size in the consequent seven rows. The legs shift to the right for the first and the third dog, while the second and the fourth dogs' legs shift to the left. The shift is achieved by adding one warp thread to the left side and subtracting one from the right side.

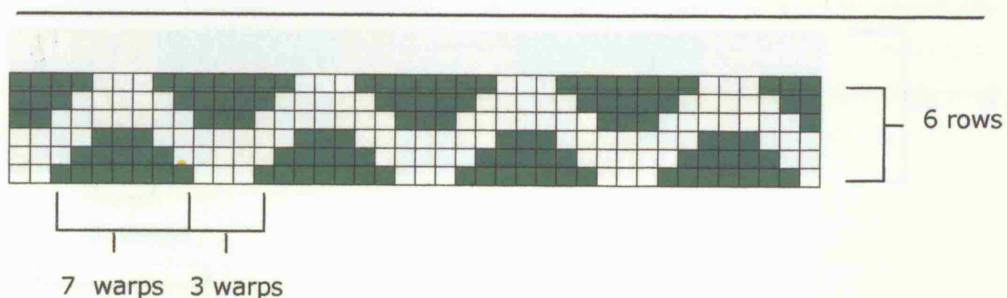
The body of the dog begins at row ten and it is made up of three warp wide sections with one warp threads' space in between for the next ten rows. The tail begins at row twenty-one and it has the shape of a curl, in which the curve of the tail and the stem of the tail have to be brocaded simultaneously from the twenty-seventh row. The neck of the dog begins at row twenty-one and the base is made from two sections of three warp threads with a space of one in the centre; then it changes into one section of seven warp threads in five rows. The head of the dog is sixteen rows high and symmetrically brocaded to the left and right, with a snout and eyes brocaded from five elements in the centre. The total height of the dog is thirty-six rows high.

Rhythm, movement and optical illusions

Another commonality among Maya patterns is that they should express movement. One of these is the zig-zag pattern, which usually meanders across the chest area of a *huipil* horizontally, or sometimes it is woven vertically as multicoloured dazzling bands across the length of the *huipil*. Isabel taught me to weave the zig-zag pattern in two versions. One is white and green and named *culebra* or snake, and is thought to show the movement of a snake in a gradual build-up of the two colours used (fig 4.18). The other zig-zag is woven in blue and red against the purple ground weave and imitates the movement of water, or the spatial effect of the mountains at sunset. Isabel calls this pattern *montana* or mountain.

The warp threads are separated into seven warp threads at the back, and three warp threads at the front. The green weft thread is inserted from right to left through the sequence. Then the white brocade thread is pulled through the sequence which fits into the spaces left by the green thread, from the right to the left. The green thread sequence is getting smaller by counting one warp thread less at each side when separating the threads with the brocade stick, while the white pattern is growing by adding one thread at each side of the pattern. At the fourth row, the green and white thread trade places, so that the green and white are opposite each other, the narrow end of the green against the broad end of the white. It is this change in colour that makes the zig-zag appear in the cloth. The green and white appear as two triangles placed on top of each other and this creates the zig-zag pattern. The *culebra* pattern is six rows high.

Fig 4.18 Pattern count and colour interaction in the *culebra* pattern. See also figure 3.18.

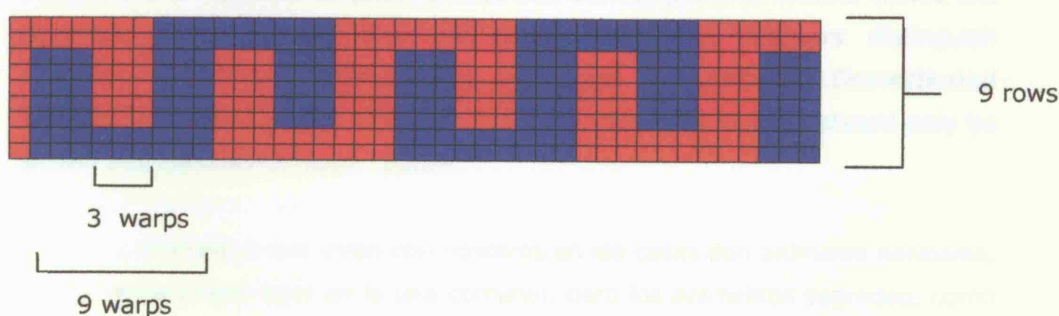


Isabel explained that the zig-zag pattern is synonymous with the shape of the mountains, the lines of trees, the falling rain, the meandering rivers, and serpents; it can be one or all of these at the same time. Isabel described the

shape of the zig-zag as “this is what you see when you look at the mountains, or the trees on the mountains” or “rain makes this shape when it falls” or “rivers flow like this” and “the snake moves in this way.” The snake is admired for its rigorously symmetrical skin with rhomboid scales in a geometric pattern, and the movement of the snake is similar to the structure of the zig-zag pattern. Isabel explained that weaving the movement of a snake into the cloth means that the cloth is swift. Weaving movement of water into the cloth is thought to regenerate agricultural potency, because of the growth the water brings to the fertile mountain slopes.

Templo is another pattern which exhibits optical illusion (fig 4.19). The name refers to old Maya temples, or as Isabel explained, *templo viejo de ancianos*, the old temple of the ancients. The *templo* is based on a very clever structure which functions as an optical illusion and makes the pattern appear like a twisted interlaced band horizontally across the width of the warps. The blue thread is put in first in sections of nine warp threads, and then the red in the next nine warp thread spaces left by the blue thread. This is the same technique as described previously for the zig-zag border pattern and the stripe pattern. The second row is a repetition of the first. In row three there is a change in the structure; now the blue thread and red thread are put in three warp thread widths, which creates the optical illusion of the intertwining of the two colours. In the last two rows there is another shift in the sequence, now the blue and red thread are put in nine warp threads' width again. It should be noted that it is this shift which emphasises the twisted appearance of this pattern. The temple pattern is nine rows high.

Fig 4.19 Pattern count and colour interaction of *templo* pattern. See also figure 3.18.



Another pattern that exhibits movement and optical illusion is the *bandera*, flag, pattern taught by Ana (see fig 3.19). The interlocking spikes creates the sense

of movement of a flag. Graded colours of similar hues are combined to create an effect of movement that works because of the symmetrical interlocking rhythm of the pattern. It comprises nineteen different elements in the colour sequence of purple, yellow, grey, white, cerise, purple, grey, white, cerise, purple, yellow, grey, white, cerise, purple, yellow, grey, white and cerise. The pattern is an optical illusion because the separate patterns seem to interlock.

The base of the first *bandera* pattern is twenty warps wide and the following pattern is five warp threads wide. This sequence is followed until all the different colours are put in. In the consequent rows, every other pattern diminishes in size by subtracting five warps from the left-hand side while the next pattern grows in size by adding five warps. At the sixth row, the spike of the first pattern is made twenty warps wide again, and it shrinks in consequent rows until the thirteenth row when the twenty warp wide spike is made again. At the sixth row the next pattern is reduced in size by brocading one section at five warp threads' width. It is this change in the structure of the *bandera* pattern which creates the illusion of interlocking spikes. The total height of the *bandera* pattern is eighteen rows.

Movement: tame versus wild symmetry

Movement of pattern is regarded as being exemplary in the construction of bird and animal patterns. Frame's essay on the movement and spatiality of animals (and humans) in Paracas cloth shows how a wide range of variation in movement can be accomplished in weaving animal patterns (Frame 2004). She points out that animals from different realms move in different ways; the way the animals are placed in the cloth depends on whether they move through air, earth or water. In Maya cloth, principles of rhythm govern rows of animal patterns, and weavers emphasize that the animal patterns should mimic the rhythmic movements of their real-life counterparts. Weavers distinguish between domesticated animals and sacred or wild animals. Domesticated animals can be woven into everyday cloth, whereas wild animals should only be woven into ceremonial cloth. Isabel:

...animalitos que viven con nosotros en las casas son animales normales, ellos puede tejer en la tela comunal, pero los animalitos sagrados, como tigres, pajaros especiales, y tortugas solo tejemos en la tela ceremonial...

In Isabel's community, domesticated animals, such as such as chickens, cats and dogs are woven standing together in row after row in everyday *huipiles*. Their symmetry is contrasted with the bilateral symmetry of *los ancianos* animal

patterns based on the rhomboid, such as the turtle, or the “wilder” symmetry of animals, such as *tigres* and *quetzales*, both categories belong outside every day life. Animal patterns based on the rhomboid are regarded as stabilising cloth because of their graded symmetry, whereas the wild animals are considered to create a “spark” in the cloth because they are “on the move.”

Wild animals are described by the weavers in different ways, and this quality should come out in the pattern count. Animals can be secretive, like the fox, or dangerous and exotic, like the *tigre* or jaguar, or beautiful and elusive like *quetzales*. In Rosa’s community, cloth is brocaded with *tigres* standing on their hind legs, perceived to be attacking something (fig 4.20). Their symmetry is graded towards one direction and it is this which makes them appear wild. In Juana’s community, *quetzales* and foxes are used to create tension in the cloth; both are woven in graded symmetries to one side only, and not in the bilateral fashion like the *los ancianos* animal patterns.

Movement and symmetry of wild and sacred animals are experimented with by the weavers, such as the “broken neck” turkey which is only depicted on ceremonial *huipiles* in San Pedro Sacatepequez (fig 4.21). The neck of the turkey looks like it is broken because the head is depicted hanging down. The shape of the turkey can be contrasted with the shape of living birds which are woven into everyday *huipiles*. These birds have straight necks and their heads look forward. The shape of the horse, which did not appear in Maya cloth until after the Europeans brought them to the Americas, is also toyed with. In Chajul cloth, the body of the horse is depicted sideways, sometimes with a person sitting on its back. But the heads of the horses are woven in such a shape that they could be interpreted as face-frontal or showing their profiles (see fig 2.9).

Vertical patterns and empty spaces

Patterns are not thought of as flat surfaces that occupy cloth; instead they are considered to be raised on top of the cloth at the same time as they are physically interwoven in the cloth. Juana explained that patterns are structures on top of the foundation (cloth), and that it is the threads, the colours, which make the pattern, “... los dibujos son estructuras superiores y tambien son partes del fondo, son los hilos, los colores, que hacen el dibujo.” It is the combination of different-coloured threads which makes the patterns stand out as the pattern edge is raised from the ground weave (fig 4.22). The use of matte warp and shiny weft together with different sets of numbers create horizontal and vertical layers of threads which are superimposed on each other. The addition of vertical stripes in the warps creates a spatial effect when horizontal patterns are woven

on top of them. Isabel calls the stripes *rayos*, rays, and she explained that they are like the rays from the sun, and they "heat up" the weave and create depth.

The effect of patterns raised from the surface of cloth is accomplished because weavers take into consideration the space between the patterns, since this affects the spacing of patterns in the weave.¹⁵ When weaving free-standing patterns, the distance to the next pattern has to be meticulously counted because otherwise the relation of the overall patterns will be lost. Isabel explained: "... es necesario mirar a los espacios tambien, no es posible tejer dibujos buenos si no comprende como mirar y contar estos espacios."

Empty spaces can also be combined with interlocking free-standing patterns to create movement and accentuate visual complexity. The *arboles*, tree, pattern Isabel taught comprises three separate elements which create a pattern of two upright trees flanking an upside down tree in the middle. Isabel suggested the trees would be put in a sequence of, from right to left, blue, beige, red, a space and then blue, pink, light blue, a space and then green, purple, and white. The base of the first tree is twenty warp threads wide, divided into two sections of ten threads each. The base of the upside down tree in the centre is three warp threads wide. The base of the third tree is the same as for the first one, e.g. twenty warp threads wide, divided into two sections of ten threads each. The space to the next pattern is fifty-five warp threads and this is crucial to keep when placing the pattern in the weave, because otherwise the tree pattern will not be appear as raised from the weave.

In the next row of weave, the first and the third tree are reduced in shape by subtracting one thread from each side, while the centre tree pattern is growing by pulling the brocade thread through to make two sections of three threads each, making it six threads wide. The growth of the centre tree and the reduction of the outer two trees continues by adding one thread to the sides of the centre tree and by subtracting one thread from each side of the two outer trees. This continues until row nine. In row ten there is a change in the pattern and the outer trees begin to grow in shape by brocading a section which is twenty warp threads wide again, divided into two sections with ten warp threads each. The centre tree shrinks in size by reducing the width to six warp threads divided into two sections of three warp threads each. After this change the centre tree grows in size by adding a thread to each side, and the flanking trees diminish in size by reducing one thread at each side. This continues until the tree pattern is sixteen rows high.

¹⁵ With the *Tukano* in South America, pattern negatives, empty spaces are given special importance (Reichel-Dolmatoff 1978b:32, 148).

Symmetry breaking

Asymmetry is also inherently important in weaving Maya patterns, as pointed out in detail by Bier, who says that while symmetry may be a constraint in pattern making, symmetry breaking may be chosen because this makes the patterns more exciting for the eye (Bier 2000:131, Washburn & Crowe 1988). Symmetry breaking may be accomplished by transformations of colours, shapes, space and patterns. Bier (2000:131) explains that colour transformations may include binary colour change, colour alternation, algorithmic colour change, or random colour change. Transformations of shape are achieved with the arbitrary change of shape, reduction in size or scale, the addition of other shapes, or change in orientation. Transformation of space may include the illusionistic treatment of space by creating a perception of overlapping planes in two dimensions or by the representation of illusionary interlace. Transformation of pattern includes the abutment of border patterns with horizontal or vertical reflection including the change of symmetry while retaining form, or the arbitrary cut-off of pattern by other patterns or borders, and the juxtaposition of patterns.

In Maya weaving there are two categories of asymmetry, unintentional and intentional. Unintentional asymmetry occurs when weavers make an unconscious mistake in weaving patterns. This can occur when the weaver has failed in her counting of the warp threads because she was not able to count and “see” the threads properly. If warp threads are not counted in equal pairs before inserting the brocade thread, asymmetry appears. If one or more warp threads are missed from the sequence, they may hang like loops in the otherwise tightly woven grid. Patterns may also appear asymmetrical if the brocade thread is not properly inserted into the weave. If the brocade thread is inserted too loosely, it will hang and disturb the symmetry. But if the brocade thread is inserted too tightly, the cloth will shrink and the pattern will be asymmetrical. When weaving double-faced patterns, it is important to not wind the brocade threads too tightly around the warp threads because then the patterns appear asymmetrical and ugly.

When weaving the *cruz* pattern with Juana, I counted the sequence wrong in row six and lost the cross shape along with the overall symmetry of the pattern. The first row of the pattern is made from white thread in sections of five warp threads at the front, and ten at the back. The yellow thread is brocaded in sequences of ten warp threads’ width divided in two sections of five in the spaces of ten warp threads left by the white thread. This continues for five rows.

In the sixth row the pattern changes. Now the yellow thread is put in first into a sequences of ten threads divided into two sections of five threads each. Then the white thread is brocaded in the spaces of five warps left by the yellow thread. In the eleventh row a new sequence begins, which is the same as the first five rows, i.e. starting with the white thread in five warps' width and then the yellow in ten warp threads' width.

Juana explained that unintentional asymmetry accentuates faults in pattern construction and reflects the bad character of both weaver, and woman, which is not good for either cloth or the Maya community. Asymmetries in the weave are a sign of a careless, sloppy weaver, and in this respect also the sign of a careless, sloppy woman. A messy reverse side of cloth is not good because a disturbance to colour symmetry in a cloth makes it pointless and useless.

In contrast, intentional asymmetry is regarded as a way for the weaver to make her mark in the cloth by introducing subtle changes in one part of the cloth. This change should be symmetrical in itself; that is, the threads should be taut and they should not overlap in the wrong places. Despite the repeated reminders of the importance in achieving symmetry when weaving patterns, weavers would introduce unexpected deviations from the norm into the weave. A pattern could be slightly altered from its perfect form, and colours that should not be combined together were sometimes used in small parts of the weave. Weavers explained that these conscious mistakes are essential in order to make the cloth bear the weaver's signature, and to make it her own.

For example, when Isabel taught me the *arbol* or tree pattern, she asked me to use purple thread for one of the trees. Previously, Isabel told me that the foundation colour should not be used for weaving patterns as this is considered not pretty, and it could also be dangerous because it diminishes pattern symmetry. Querying this, Isabel explained that to use purple for the tree is a sign that the cloth I am weaving is my cloth, and that people looking at it may wonder about this anomaly. Isabel, "...quando una mujer mira su tela, ella no sabe porque hay mismo color aqui, es bueno porque lo signficada su tela..."

I made another mistake when I brocaded the second temple pattern in blue and white. On the left-hand corner, towards the edge of the cloth, the symmetry is lost in one place. Isabel explained that this is a good way of learning not to make the same mistake again, since it is disturbing to see the pattern asymmetrical. However, since I had wrapped the threads in the proper way around the warps, and there were no loose threads or other faults in the sequence, Isabel explained that this mistake could work to my advantage since it could be seen as another signature of my cloth.

Reverse symmetry

El ritmo also governs colour rhythms of patterns which materialise on the reverse side of the cloth, and the reverse side is constantly referred to when learning how to weave patterns and in evaluating the efficacy of cloth.¹⁶ Weaving two-faced patterns creates inverted colour symmetry, or a colour negative, on the reverse side of the cloth. This is particularly prominent in the two-faced brocaded patterns of Juana's and Rosa's communities (figs 4.20, 4.23). These colour negatives are constantly inspected during the weaving process, because they reveal faults in the pattern construction, such as the case when threads have been misplaced in a sequence or if they have not been inserted properly, which is only visible at the back. Even if the pattern may appear firm and neat on the front, brocade threads can hang loosely on the reverse. The flora pattern I wove with Juana appears fine when looking at the front, but when turning to the other side, the mistakes can be more than easily spotted (fig 4.23). When making this pattern I had placed the threads in the wrong sequence because the reverse side does not appear as a mirror image of the front; instead the reverse side appears messy and the threads are overlapping.

Juana explained that it is easy for her to relate to the colour inversion because she knows that faults in patterns are the result of colour asymmetry. Also, the colour inversion aids learning because it promotes logical thinking. Weavers see the patterns as colour oppositions, and it is visually easy to spot mistakes on the reverse side because the colour has to be inverted for the pattern to appear correctly. By relating patterns to oppositions, the weaver's ability to learn is accelerated through the use of different colours that create the opposition in the front/back imagery.

Juana demonstrated the usefulness and importance of inspecting the reverse side of patterns when I learnt how to weave the cat pattern, which is repeated four times across the width of the cloth (fig 4.24, see also fig 3.15). The second cat is facing the first cat, and the third cat is looking at the fourth cat. Because

¹⁶ Jolles (2004) shows how Zulu women's bead belts have reflection symmetries hidden in the colour sequence of old belts that reveal information about social organisation which is no longer present. In Guss' (1989) study of basket makers in South America he mentions that certain patterns, such as the woodpecker, bat, monkey, toad and frog, will have a second interlocking reversed one. This mirror image is described as being the *akato*, or invisible double of the first, and it is in this invisible double that the real power resides (Guss 1989:122, pls 34-36).

the cat pattern has two front and reverse images, it is important to understand and use both of these when constructing the pattern.¹⁷ Juana explained that for weaving patterns, the cat pattern is very good for learning about rhythms. The cat pattern allows a weaver to start thinking about how patterns are structured by understanding that it is possible to reverse a pattern and count the threads in the opposite direction from the original pattern. The third cat stands with its back to the second cat; it is looking in the same direction as the first cat, so if the pattern is forgotten, the first cat can be referred to.

Using the double-faced weaving technique, which Isabel excelled in, results in mirror images of patterns on the reverse side of the cloth, but it does not result in a colour negative. In this case, the weaver has to be very careful when wrapping the brocade threads around the warp threads, because she does not have the colour negative on the reverse to guide the final form of the pattern. Instead, the weaver has to ensure that the pattern on the reverse side of the cloth appears as a proper mirror image of the pattern at the front. For example, when learning to weave the star pattern, Isabel slowly showed me how to wrap the brocade weft around the desired warp sequences. The star is composed of six separate elements; it is important to keep these sections in symmetry with each row so that the pattern appears properly mirrored on the other side (fig 4.26).

The reverse side of patterns is not only important when learning how to weave patterns. The symmetry on the reverse side of cloth has an important part in evaluating the efficacy of cloth and in investigating weavers' skills during social occasions. When weavers visit each other's homes, they constantly compare cloth and during these social occasions women can share and promote their weaving knowledge with other weavers. It is particularly the reverse side of cloth which is inspected since it holds the clues to specific weaving techniques. If a weaver can spot faults on the reverse side of cloth, or if the cloth she has woven has perfect reverse-side symmetry, she is considered to be an excellent weaver. Therefore she is regarded as having a high position in her community, both as a weaver and as a woman.

These occasions are especially tough for weaving novices because the reverse side of the cloth they are weaving is subjected to constant examination. More experienced weavers can tell immediately if the weaving novice will excel in weaving or not by looking at the reverse side of cloth and inspecting how the symmetry is proceeding. A weaving novice can be reprimanded by both her

¹⁷ The dog pattern is made in the same way; the first dog looks at the second, while the second dog stands with its back at the third dog who looks at the fourth dog.

teacher, and any other woman who wants to look at the reverse side of the cloth.

The inspection of the reverse side of the weave is also employed when women try to sell their cloth. Weavers point out the neat reverse side of cloth as a sign of good weaving and this is frequently used when they describe cloth as *hecho de mano*, made by hand, as opposed to cloth woven on the foot-loom. Weavers use the reverse sides of cloth to promote their community-specific cloth by stating that the reverse side shows why their community has the best cloth. The first time I met Rosa, she showed me with pride the reverse side of her own *huipil* to prove that her village-specific *huipiles* are simply the best in Guatemala because of their rigorous reverse symmetry. When viewing her community-specific cloth from the reverse side, the patterns appear very orderly because they comprise small diamond shapes in different colours, which together make larger patterns.

Secret rhythms

Because pattern techniques are community-bound, they can only be visually and tactually understood by the weaver. An outsider can look at the cloth and have an understanding of how the pattern is structured, but they will not know exactly how the pattern is perceived and how it is supposed to be made. Thus, the reverse pattern symmetries holds the secrets of the weaving techniques, and this is kept by Maya women and only shared with women of the same kin group. Already in 1500 the Spanish traveller Fuentes y Guzman noted that textile patterns were guarded by Maya weavers in the Highlands (Fuentes y Guzman 1932, 33: vol III). Contemporary weavers continue to withhold weaving information from outsiders because weavers don't think it is acceptable to share the construction of specific patterns with persons outside the community boundary. To teach the knowledge of specific patterns to a foreigner is regarded as a case of diminishing the value of the patterns.¹⁸

When I asked the weavers to learn specific patterns I considered beautiful I always got similar replies. Weavers indicated that the patterns are too difficult for me to learn to weave, or sometimes they suggested that maybe I could learn them later on. Patterns I was not allowed to learn are those belonging to the *los ancianos* category. These patterns are based on a more rigid symmetry than other patterns, and it is specifically this symmetry that is considered to be more

¹⁸ Comparatively, Navajo weavers don't reveal weaving knowledge to outsiders because they think this diminishes their skill and value, and they remark on the inappropriateness of scholars identifying specific motifs as isomorphic symbols (M'Closkey 2002: 216, 245).

powerful than other pattern symmetries and therefore not feasible to teach to outsiders. Even when weavers told me they were teaching me ancient patterns, the number count was slightly altered.

The *Gukumatz pattern*, which Rosa taught me, is modified so that I would not learn how to weave it exactly as the original pattern (see fig 4.8-9). Rosa said it was necessary to amend the size of the original *Gukumatz* pattern so that it would fit the width of the warps. Despite doing this, the pattern I wove bears only slight resemblance to the original *Gukumatz* pattern. When weaving the *estrella* or star pattern with Isabel I asked her if this is a traditional star pattern. She replied it is not a traditional pattern; instead it is a star which she teaches to foreigners, and it is used in cloth sold to tourists. Isabel showed me a traditional star pattern in her *huipil*, which is in the shape of an oak leaf. Other patterns that I was not allowed to learn include the beautiful arch pattern in Ana's community, and various animal and celestial patterns in Juana's community.

In practice, the alternation of number count is a way to change the weaving knowledge of specific patterns. When I was taught to weave the tree pattern with Juana (see fig 3.15), she decided to change the shape so that it would not replicate the shape of the sacred tree pattern which is woven into ceremonial cloth. In the first row of the tree pattern the roots of the tree are placed out in the sequence of three warps, two spaces; this is repeated three times. The distance to the next tree is thirty-five warps. In the following nine rows, the roots of the tree turn into a trunk with two branches; this occurs by reducing and growing in size so that it forms a cross. The trunk is made from one warp width and continues in one straight line from row nine and ends at row sixteen where the branches begin. The branches are cleverly constructed of seven elements with one outer section which delineates the smaller elements. The outer section grows in size by adding a warp thread to the outer left and right sides and by reducing one warp thread from the inner left and right side. Juana suggested a change in the shape of the branches; she suggested they should be closed in instead of spreading out. The total height of the tree is thirty-one rows and it is made from a total of eleven elements.

Conclusion

Previously, studies of Maya patterns focused on their representational and symbolic aspects (e.g. Deuss 1990, Neutze de Rugg 1976, Start 1948). As part of cultural thought, Maya patterns have been used as reference points to establish a continuum of Maya culture from the past to the present (Knook de Arathon 2003). By using a comparative analysis of pattern weaving from five Maya locations this chapter shows that patterns are not merely seen as symbolic representations of cultural knowledge woven into cloth. Instead, the most important aspect for Maya weavers is that patterns exhibit symmetry and rhythm. This is achieved through the twisting, shaping and turning of threads into specific numerical sequences, because Maya weavers conceptualise patterns as the result of the addition or the subtraction of coloured threads during weaving. Therefore it is the ability to count colours in different ways which creates the variety of patterns visible in Maya cloth.

This suggests that the western categorisation of patterns (e.g. Washburn & Crow 1988, 2004) is not always transferable across cultures, because to use western scientific measurements to analyse patterns is not always beneficial to understanding the role of pattern. This is obvious in that Maya weavers think that patterns are created from a series of arithmetic colour rhythms which are made according to the concept of *el ritmo*, rhythm. It is the concept of *el ritmo* which creates the symmetry of patterns and it is crucial for weavers to learn how to manage *el ritmo* during weaving. *El ritmo* also governs other activities such as making tortillas, playing music and speaking. A weaver who is able to control *el ritmo* in cloth has a better chance of being able to have *el ritmo* in other areas of life.

However, the use of arithmetic in Maya weaving is not simply conceptualised as an act of counting threads into rhythmic sequences. Numbers are thought of as material, tactile entities of colour and this is demonstrated in the way weavers count the pattern threads as number blocks of colour. For example, weavers may describe a section of a pattern as 5 white, which means that the pattern thread occupies 5 warp spaces, or 4 red when the pattern thread occupies 4 warp spaces. Further, the Maya number system is vigesimal and it is based on the twenty digits of the human body. Numbers are also considered to be entities which possess different qualities, which is best understood when studying the Maya calendar system. Therefore when weavers are using numbers during weaving, the numbers are considered as entities extending from the body to the weave.

To count threads when weaving patterns is also regarded as a way to count social structure. This is demonstrated through the counting of warp threads into

pairs when weaving patterns because this corresponds to the counting of people and things in pairs in everyday life. Thus the act of counting in weaving is employed by weavers to establish social order in the community through the manipulation of particular sets of numbers and colours. This is why the symmetrical growth and reduction of patterns are important because the constant weaving of patterns is regarded as a way to establish and control social order. Because patterns are location-specific, the renewal and maintenance of Maya communities are re-enacted in the counting and weaving of warp and weft threads into even and odd numbers.

There are several aspects of Maya patterns which would not be obvious if they were studied using western mathematical formulas. For example, the concept of *el ritmo* is also used as a term of reference when evaluating the quality of cloth. A well-woven cloth should exhibit colour symmetry and be flawless because this means that a weaver who can achieve colour symmetry in patterns is an orderly weaver and it also suggests that she is an orderly woman in other areas of life. In contrast, if a cloth exhibits colour asymmetry, this reflects the sloppy character of the weaver and suggests that she is also a sloppy woman. Therefore colour asymmetry is not favourable for the structure of cloth or for the structure of society. However, to create symmetry breaks by altering number counts and colour combinations in patterns is a method used by weavers to imbue their own "essence" into the cloth.

Maya weavers think about patterns in terms of movement created from the application of colour rhythm, such as in the snake and temple patterns. In other patterns this movement may not be as obvious, such as in some of the animal patterns that may appear static to the viewer. Patterns are also thought of as three-dimensional units which rise vertically from the weave, achieved by the use of colour contrast. Thus patterns are part of the cloth and at the same time they can be perceived of as independent figures raised from the surface of cloth. The patterns that are created on the reverse side of cloth during the weaving of two-faced and double-faced patterns are equally important for the weavers. By inspecting the patterns on the reverse side, it can soon be determined whether a pattern has been constructed correctly or whether the weaver has cheated when she wove the pattern.

A western analysis focusing on the symmetrical analysis of Maya patterns would not pick up on the subtleties of how patterns are thought of during weaving or how they fit into the larger picture of the weaver's life and village. Thus, the weaving of patterns is for Maya weavers a way to weave the world around them into cloth, but not as a symbols; instead, patterns are regarded as rhythms integrated in everyday proceedings.

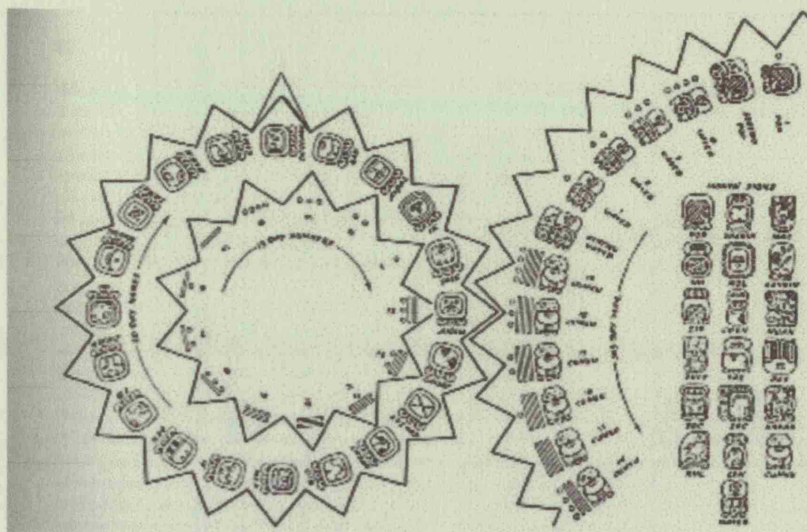


Fig 4.1 Schematics of the Maya calendar system. The sacred 260-day calendar interlocks with the solar, 365-day calendar.

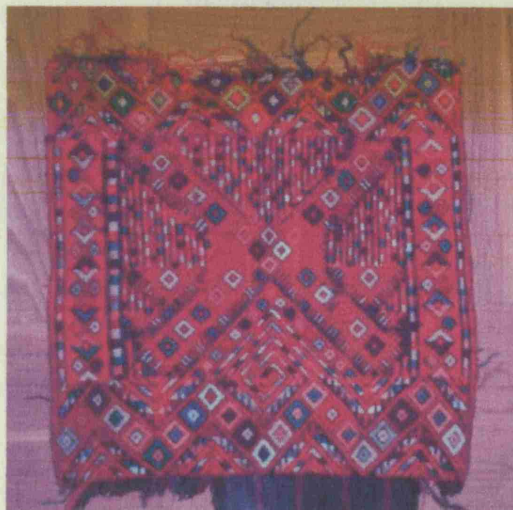


Fig 4.8 *Gukumatz* pattern from Rosa's collection.



Fig 4.9 *Gukumatz* pattern modified for my cloth by Rosa.

Fig 4.10 Weavers and their preference of pattern technique

Weaver	Free-hand	Brocade stick	Bodkin	Warp-faced patterns	Single-faced patterns	Two-faced patterns	Double-faced patterns
<i>Lucia</i>	no	no	no	Stripes	no	no	no
<i>Isabel</i>	yes	yes	no	Stripes	no	no	Templo Arboles Borde Estrella Montana Flecha Culebra
<i>Ana</i>	yes	yes	yes	no	Banda Bandera Tijeras Rosa Pepita	no	Tz'ikin
<i>Juana</i>	yes	no	no	Stripes	no	Cruz Perro Tinaja Arbol Rana Mish K'ot Flora	no
<i>Rosa</i>	yes	yes	no	no	no	Gukumatz	no



Fig 4.14 Rhomboid/diamond pattern with added curls.

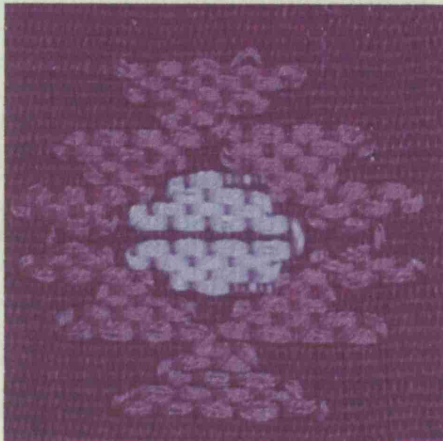


Fig 4.15 Rosa pattern based on the rhomboid, woven under supervision of Ana.



Fig 4.16 Turtle pattern based on the rhomboid, woven under supervision of Juana.



Fig 4.17 Dog pattern woven under supervision of Juana.

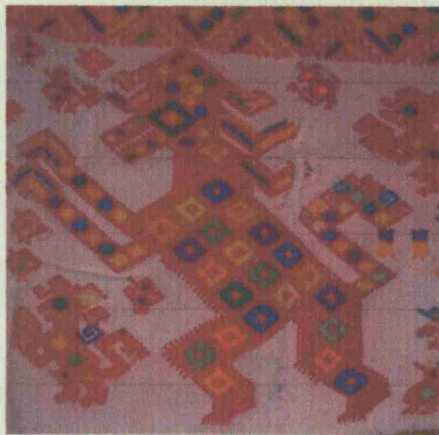


Fig 4.20 *Tigre* pattern, front and reverse image.

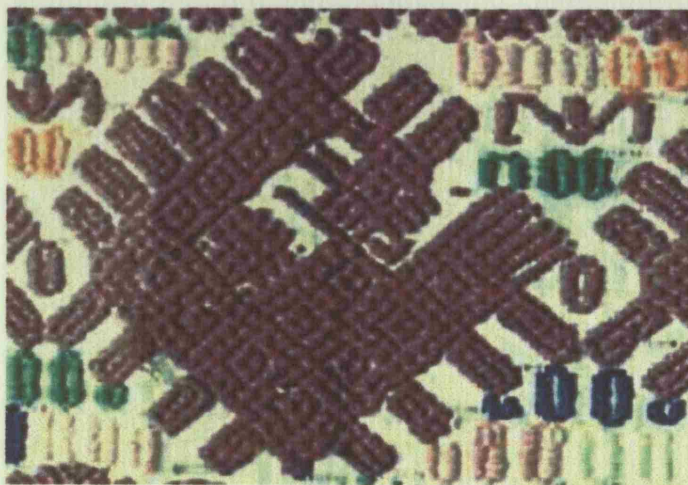


Fig 4.21 Broken neck turkey, detail from San Pedro Sacatepequez huipil.



Fig 4.22 Animals raised vertically from the surface of the cloth.

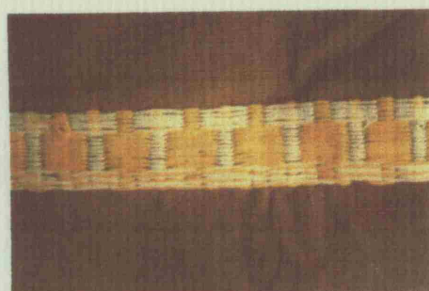
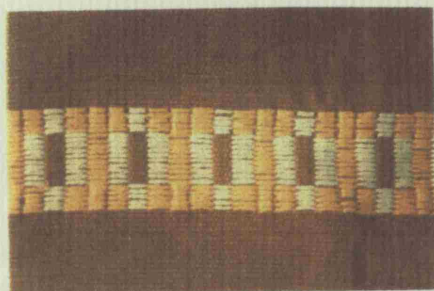


Fig 4.23 Front and reverse of *flora* pattern. Note the 'clean' front opposed to the messy reverse side. Woven under supervision of Juana.



Fig 4.24 Cat pattern, front and back images, woven under supervision of Juana

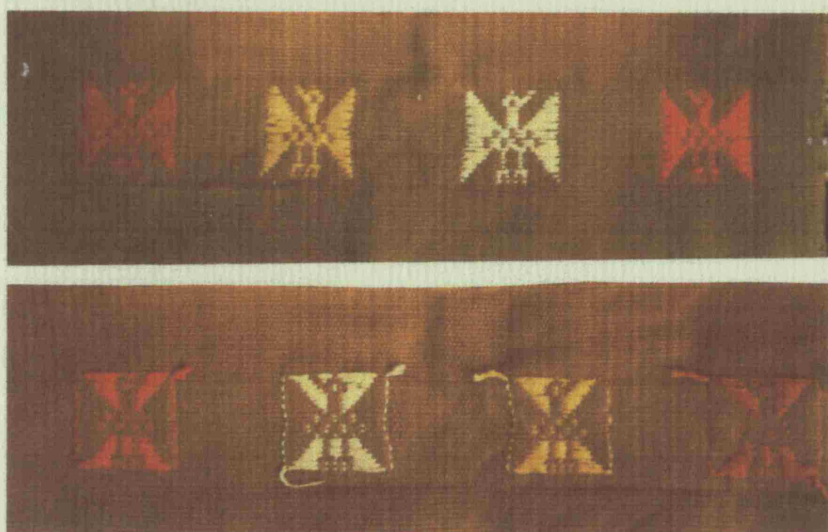


Fig 4.25 Front and reverse of eagle pattern, woven under supervision of Juana.

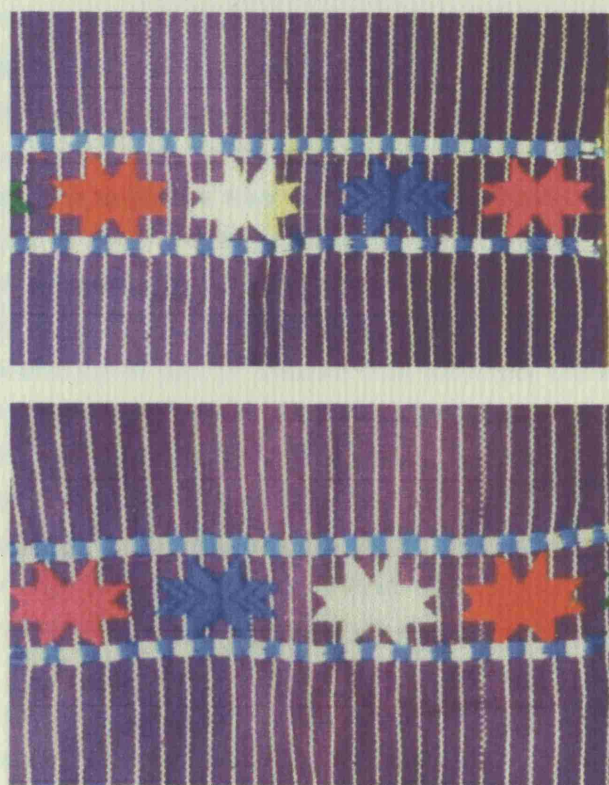


Fig 4.26 Star pattern, front and back double-faced mirror images, woven under supervision of Isabel.

Chapter 5

WEAVING AS CULTURAL PERFORMANCE: CLOTH, TRANSITION AND FEMALE IDENTITY

Weaving and performance

It has long been thought that weaving is more than a skill, and that it engenders a way of thinking about the world that is immediately tied to the act of weaving, the tools used, and the patterns that are woven (Dransart 2002, Guss 1989, M'Closkey 2002, Schaefer 2002, Silverman-Proust 1988). The Maya weavers I worked with liken weaving cloth to world-making, "...weaving is like making a world, our world" and "...it is necessary to weave to exist" and "...to weave is to be one with the world." Weaving for Maya women is a way of both being in the world and making the world.¹ Weaving can thus be understood as cosmological performance, a term used by M'Closkey (2002) in her work on Navajo weaving. She recites how the act of weaving, the tools and cloth are understood as part of relations that constitute the Navajo world. We know such re-correlation of weaving and world-making in the Andes, where meaning and structure of woven cloth is synonymous with its rendering, the structure and essence of cloth are regarded as one (Silverman-Proust 1988). In Venezuela, weaving for the Yekuana basket-makers is thought to be a way of living and making the world (Guss 1988). Weaving a basket for the Yekuana is synonymous with the construction of houses; to tell a story is like weaving, and to sing, to speak and to eat is to weave. Dransart's (2002) work in Chile describes how the processing and weaving of wool is an integral part of the seasonal cycle. Schaefer's (2002) studies with *Huichol* weavers in Mexico narrates how weaving is situated in women's lives as a practical and sacred way of life, and that weaving is essential for the development of women's identities.

¹ Cloth, and the act of weaving itself are suggested to be the foundation of the Maya world. The link between weaving and creation goes back to pre-Columbian times. In Maya hieroglyphic writing, the "crossed batons" glyph T153 refers to creation and can be translated as "weaving the universe" and the crossed batons may depict weaving sticks (Looper & Tolles 2000:12-13).

To understand what weaving means to Maya women it is necessary to situate weaving in the context of everyday experience.² Recently, Guatemalan Maya scholars pointed out that Maya cloth is not what western academics think it is about (Nimatuj 2003, 2003a, Otoy 1992, 1996, 1996a). During her visit to the University of Iowa, the Maya weaver Elena Ixcot complained that scholars studying Maya textiles are not aware of the social setting of weaving. She suggests that an understanding and appreciation for Maya textiles must take place within a community, and weaving must be seen as description and outcome, expression and connection, in the life of Highland Maya (cf Kellman 1991:20). Similarly, Eber and Rosenbaum (1993) suggest it is necessary to situate weaving in a larger framework within the community. Their experience with Maya weavers from Mexico reports that weavers do not talk about weaving as an act of personal empowerment. Instead the weavers speak about weaving "along with their organizing work, as service to the families and communities, at once practical and sacred" (Eber & Rosenbaum 1993:175).

When Maya weavers learn how to weave on the backstrap loom, they are not only taught weaving knowledge itself, but they are also subjected to other forms of knowledge which is integral to the process of learning how to behave as a woman in the community. During weaving, and in the subsequent handling of finished cloth, Maya weavers engage in gossiping and joking. While we may regard these as mundane activities, they are in fact important facets for exchanging cultural knowledge among Maya weavers. These activities, centred in the act of weaving, are dealing with female knowledge of creation and renewal, which are important for the maintenance of the weaver's identity, kinship ties, and in extension, of the community as a whole.³ Gossip provides women with cultural information that enables them to learn how (and how not) to behave in a community by relating to shared experiences. Joking during weaving eases the difficult learning process of weaving and creates bonds between weaver and novice. It is through the acts of gossiping and joking that knowledge is realised and learnt.

² Knowledge pertaining to Maya women's identity is realised through practice, e.g. the actual activity of weaving (Bourdieu 1977, Lave 1988). Bourdieu's (1977) theory of practice, *habitus*, suggests that cultural representations don't exist independently of activity but instead they exist and are instantiated in the activity itself. The *habitus* is not expressed in practice it rather subsists in it. Lave (1988) suggests that cognition is not a process which goes on in the mind, instead cognition is a social activity situated in relations between persons and the world.

³ Anthropology of performance focuses on social space as an arena for action and creation of identity (Turner 1987), and weaving as performance requires a culturally assigned space in which women gather together.

Thus, the exchange of knowledge during weaving is important in maintaining social structures because it pertains to issues relating to women's behaviour. Therefore weaving is an activity that provides a time and place during which women can learn and develop social skills which are needed to situate them as useful members of the community (see Alexander 2003, Cerry 1992).⁴ These occasions are also important social gatherings for women, because this means that the weaver is successful in establishing links with weaving novices and other weavers. Thus weaving also creates networks of social relations that reinforce the weaver's status.⁵

Silent women, spoken cloth

Weaving provides an occasion when Maya women can meet in their homes without the presence of their husbands or other male relatives.⁶ When men are absent, weavers visit each other's homes to exchange ideas about weaving and life in general. Women who have never learnt to weave also visit their friends' homes. During these occasions, women sit down around the weaver and talk about the latest community gossip, or about other personal things, because they know that the husband of the house is absent. It is during these occasions that women have the opportunity to discuss issues that they can't or don't want to talk about when their husbands or brothers are present since the topics that are raised during weaving are never mentioned if a man is present. When women discuss topics relating to problems in their personal life they stop talking about these issues immediately when a man returns home from work, or if a male

⁴ In his study of barbershops in the Black Community, Alexander (2003) shows that the barbershops are discursive spaces in which the confluence of Black hair care, for and by Black people, and small talk establish a context for cultural exchange. Keith explains that this is a centralized occasion within a cultural community that serves at the confluence of banal ritualized activity and the exchange of cultural currency. Similarly, the quilting activities of women in Minnesota, US, is described by Cerry (1992:109) as a social activity in which co-operatives enhance individual achievement and self esteem and provides an important occasion for mutual engagement in cultural knowledge.

⁵ Childs' (1999) study of Toro ironworking suggests that ironworking was as much about reinforcing and reaffirming fundamental social relationships as it was about making iron. Bray (1997) explains how women in late imperial China began to use embroidery to establish bonds between women, when textile making was commercialised and taken over by men.

⁶ Little Jr (2003, 2004) has talked about the anthropology of performance in Maya communities, and how Maya people have opened up their homes to tourists to demonstrate weaving and cooking skills. However, in my case, weaving was closed performance, as the activities took place behind closed doors in the domestic unit.

friend enters the house. Weavers remark that men are not aware of what women talk about when the men are not there, and that the men do not understand women's issues. Ana: "...ellos no saben que nosotros hablamos, no es posible hablar como esto si los hombres son en la casa, ellos no entienden las cosas mujeres....

Men's opinions and behaviour are frequently ridiculed by the women, because it is considered that men don't know what female beauty is, men are not as clever as women, men talk rubbish most of the time, and men spend too much time drinking and flirting with other women. Weaving is thus the time which eases the tension of being a woman in Guatemala because during weaving, women can relieve their worries about their personal lives to other women and discuss matters which their husbands don't understand, like contraception or sexual behaviour. Therefore weaving is a crucial activity in the construction and examination of female and male identities because it provides a time for women to be themselves and think about their role as women in Guatemalan society.

Additionally, weavers explained that because Maya women are socialised not to voice their opinion in public, speech during weaving becomes information that is only shared with other women. Weavers regard the cloth that they weave as being infused with female information, not as actual words, but instead the colourful patterns woven into cloth are considered to reiterate the rhythms of women's ideas that deal with the multitude of issues that are exchanged during weaving. Juana: "...la tela, y el ritmo de los colores y dibujos son expresiones de las ideas nuestras, las mujeres, ...los hombres no saben nada de la tela..."

To continue to weave cloth is therefore crucial for Maya women because this is a way for them to be able to voice their ideas and creativity, which may become suppressed as the women enter married life. Consider Zorn, whose research shows that Andean women weavers (2004:156) "...emerge through their cloth as dynamic mediators between their community and the outside." She points out that Andean women lose their public voices after marriage and cloth provides the medium through which they can voice themselves. Similarly, Maya women's connection to cloth after marriage enables them to construct and exhibit their identity, which some of the weavers feel may have been lost, particularly if the woman had to move into the husband's domestic unit. Lucia explained that when she got married she had to move in with her mother-in-law before she and her husband could afford to buy their own home. Continuing to weave her own cloth had enabled Lucia to maintain her sense of self, and at the same time she had been able to connect with her mother-in-law, as she was also a weaver.

Humouring the weave

During weaving, the Maya girls who are learning to weave are subjected to frequent jokes from their teachers referring to things such as; "should I rip the weave apart?" or "do you want me to cut the threads off?" These situations often relieve the tension of learning how to weave, since cloth by its structure is easy to tear apart, it should also be easy to learn how to make. The application of humour is important throughout the learning process of weaving because this eases the tension between the weaver and the novice, and helps to incorporate cultural knowledge and analogies about life. To know how to apply humour during weaving is essential in the social construct of Maya women's identities, because joking creates and reinforces connections between mother and daughter, and between female friends.⁷ Some of the jokes can be rude, crude and invigorating, and they all play a part in the establishment of female identities.⁸

Isabel explained that jokes are important during weaving because they are reserved for women and weaver, and that jokes help novices to learn how to weave:

...bromas son importantes cuandos nosotros tejemos, hay muchas bromas que son reservados solo por mujeres y tejedoras...los bromas son importantes por las estudiantes tambien, pueden enseñar mas de tejidos con la ayuda de bromas...

Through humour, knowledge can be passed on in a different and more accessible way rather than through rigid schemes of teacher and apprentice, as suggested by Ryan in his work on tricksters (1999).⁹ Hereniko (1995) discusses

⁷ Maya use of humour in everyday and sacred situations has been discussed by Hanks (1990) who points out that Maya use puns and references to sexual behaviour between men and women in everyday life. Bricker's study of ritual humour used by the Maya in the Chiapas, Mexico, describes that humour is used in Maya ceremonies when proceeding from one stage of the ceremony to the other (Bricker 1986).

⁸ Mary Douglas describes the perception of jokes as: "the successful joke imagines the subversion of something formal and organised by something informal and energetic (that which is controlled) so that the balance of power is changed." (1968:364-5).

⁹ Ryan's (1999) study of humour in Native American Canadian art discusses the role of the trickster across issues of self-identity, representation, political control and global presence. The trickster is an ambivalent character in Native American mythologies, and is associated with crossing social boundaries through humour and playing tricks, and he is cited as an influence of contemporary Native American art. This is employed in Peyote ceremonies during which sacred knowledge is accessed through humour, and where participants are

how female clowns in Polynesia use humour to attain and keep power during the weaving ceremony called *sa'a*, which was an occasion when women gathered together to weave fine mats for an important future event. Within this setting, certain taboos were broken, and certain rituals performed and ritual clowning accompanied the weaving of the fine mats (Hereniko 1995:113-4). He points out that:

The ritual clown in Rotuma is an agent of the power structure as well as a potential catalyst for change. She exists to reinforce the status quo, with powers that are constrained within clearly defined boundaries. She is an older woman, past childbearing age, and non-threatening outside the boundary of privileged license. Her status in everyday is lower than that of chiefs and most men. When all the festivities are over she returns to being an ordinary housewife, while the chief from whom she had temporarily "borrowed" her powers resumes his authority (Hereniko 1995:131).

Similarly, Maya weavers can also be seen to function as tricksters and clowns in their upkeep of cultural knowledge during weaving. Because men are absent during these occasions, the women's power is temporarily heightened as they are in charge of the situation. When the weaving stops, or a man enters the house, women revert back to their ordinary behaviour.

Maya women are also impersonating the weaving goddess IxChel during these occasions. It is customary for a woman to cross herself before she starts weaving because she needs to dedicate the cloth to IxChel.¹⁰ All the weavers acknowledged the presence of IxChel in creating the art of weaving and she was considered to guide the weavers throughout the weaving process. Ana explained that the woman who is teaching weaving becomes IxChel temporarily because she has the knowledge to create perfect cloth. Ana: "...cuando ensamos el arte de tejer es como nostros estamos IxChel, porque ella sabe todos del arte tejer y como tejer tela perfecto..."

repeatedly ridiculed by the elders (Ryan 1999:11, n.16, 106). "Transcending geographical boundaries and tribal distinctions, it [the trickster] is most often characterised by frequent teasing, outrageous punning, constant wordplay, surprising association, extreme subtlety layered and serious reference and considerable compassion (Ryan 1999:xii)."

¹⁰ In some Guatemalan communities female Catholic saints have become patronesses of weaving, and Maya women pray to these for weaving skills. Eber and Rosenbaum mention that Maya weavers in Chiapas pray to the Moon Goddess (1993:157).

A weaving novice may also be subjected to the ridicule of other visiting weavers who may pull at the weave to inspect if it is "tight enough" or if the novice has been slack in making the patterns. In the worst-case scenario a weaving novice may be subjected to a lot of ridicule which is supposed to entice the novice into weaving better cloth. Isabel had been frequently ridiculed by her mother's friends when she was learning how to weave. In her case, this had spurred her to learn more about weaving and how to weave good quality cloth. She explained that "it was good to be subjected to jokes" because this meant that she knew she was on the right path.

The daughters of the weavers may also subject a weaving novice to jokes, particularly a foreigner such as myself. Isabel's daughter often ran up to me and looked at the loom, touched the threads and said things like, "I know how to weave. I can weave that" or "I can weave that in five minutes, it is so easy," referring to a pattern that I had been struggling with for some time.

Men's parts as women's domain

During weaving, it is particularly the exchange of sexual knowledge in a humorous way that plays a large part in the transmission of cultural knowledge. The first question I got when I started weaving with each weaver was "tiene novio?" Do you have a boyfriend? First, I thought it was quite embarrassing and forward to get this question fired at me straight after I had told the respective weavers my name and had explained why I wanted to learn weaving with the backstrap loom. Then I realised that most of the time Maya women enjoy speaking about issues surrounding men and love. Thus, the act of weaving cloth grows and sustains sexual knowledge between Maya women because weaving is an activity when men are not around, thus enabling women to discuss freely what they want. Weaving is thus important in exchanging sensitive knowledge between mother and daughter, and between other women.

The act of weaving, weaving implements, patterns and cloth itself are referred to in a sexual way when joking about relations between men and women. Weavers frequently joke about men because women feel that joking about men is a way for women to empower themselves. Most of the jokes are centred around penises, about what funny and strange things they were. With the older weavers, penis jokes were told with reference to weaving implements and patterns. Penises are thought of as funny things because they are male and this is one of the few things the women can joke about in men, or as Juana said, "there are not so many other things you could make fun of in a man." Some women explained that they may not experience more than one husband or lover in their lives and it was unfortunate if the man they married had a small penis,

because then the women would spend a lot of time weaving cloth, not 'weaving' with the husband.

When I brocaded the bird pattern with Ana, she enlightened me that the *K'akchikel* Maya word for bird is *tz'ikin*, which also is the word for penis. This was particularly funny because I had brocaded the beaks of two birds shorter than the other two birds' beaks, and when I remarked that it was a shame that the size of the beak was so small on the *tz'ikin*, this was viewed as hilarious by Ana. Similarly, when I brocaded the dog pattern with Juana I made a mistake in counting the warp threads, which made the dog pattern look as if the dog had an extra leg. Juana looked at the pattern and started laughing. She said that I had made an extra member on the dog and that this was the special member, referring to the penis, and then she remarked "but it is rather small."

Following this, Ana initiated a conversation on penis sizes and she used the bodkin to demonstrate the different sizes of penises. She laid the bodkin horizontally across the warp threads when referring to different penis sizes, and she used the thinness of the bodkin, referring to the different thicknesses a penis could have, saying that they should be thicker than the bodkin. Then she explained that larger beaters are also more popular than smaller ones because beaters are metaphorically comparable to men's penis sizes. To possess a large batten is therefore funny and fruitful at the same time, as the women can weave very wide cloth using this, which can be sold for more cash than a smaller cloth woven with a small batten.

The size of men's *rodillera* cloth (wrap-around kilt) is linked to the size of men's penises. When Maya women discuss men that wear the *rodillera* cloth, it can be described as long or short, which in essence means that the man's penis is long or short, because he needs a particular length of cloth to cover it. Women frequently joke about men taking off their *rodillera* which means that his penis is revealed. The *rodillera* cloth can also be called *perraje*, which is a derogative term because a *perraje* is the name of the women's shawl. Saying that a man wears a *perraje* is to say in other words that he "possesses no penis at all. "

Initiation into womanhood

To learn about weaving techniques and patterns follows a schedule that most weavers have been taught from their mothers or grandmothers. The women use this schedule when it is their turn to teach novices to weave. Most of the teachers are mothers and grandmothers with more life experience than the novices they are teaching, so during weaving they can teach novices about life and what they can expect from it. Inherent in teaching weaving is that the extent to which a weaving novice has advanced in learning about weaving techniques parallels when she is ready to learn about life in general. With the onset of menstruation, weaving novices are considered to be ready to learn more difficult patterns, as well as the essential knowledge of how to not get pregnant. The transformation of girls into women is aided by the process of weaving because it provides a ritualised occasion during which girls are taught knowledge which they may not be subjected to otherwise. The knowledge is absorbed with respect and adhered to by the novices because it is taught by a close female relative, such as the mother or grandmother to whom a girl is respectful.

Isabel explained that when she started menstruating her mother taught her a specific pattern, and at the same time the mother had explained to her about sexual reproduction. Isabel described this as a frightening time because not only was her mother expecting her to be able to weave a specific pattern, but this was the first time someone actually told Isabel about what happened between a man and a woman when they had a sexual relation. After learning about what can happen between a man and a woman, Isabel was shy when passing men in the streets, but she was able to weave more and better cloth after this. Isabel:

...cuando yo tenia los mensuales mi madre me cuento los cosas de mujeres y hombres, y tambien ella me enseno un dibujo especial que sa madre la enseo en anos pasados...me susto porque no sabe mucho de los cosas de mujeres y hombres antes esto...despues fue muy timida cuando encueute los hombres en la calle..pero puedo tejer mas tela y tela buena...

Ana's transition to womanhood had entailed her learning how to weave more complicated patterns as well as how to behave when men are around in order to gain respect in the community. Ana explained that she had to weave a particular pattern with her mother for a long time before she understood the importance of the occasion and what her mother was implying. Her mother had then started describing to Ana about her own body and the changes that occur when a girl turns into a woman. Ana had been quite shocked at this to start with, but later

on she managed to see the funny side of the information which was laid in front of her.

Not all women were frightened by this new knowledge but instead saw it as a way to express their personality. Juana explained that men notice the change in women after the women have been enlightened about their reproductive abilities. In many cases, men start to remark on the woman's ability to weave cloth. They may approach a young woman and start talking about her cloth as pretty or unusual because they sense that the woman has entered marrying age and they would like to have her as a wife. Juana:

..los hombres saben cuando una mujer sabe tambien los cosas sexuales...los hombres hablaron con ellas y decidieron que especial es la tela y los hombres tambien quieren casarse con la mujer ...

Juana said that it felt good when she knew she had the reproductive knowledge because this made her feel more powerful than men. Juana knew that she and her cloth had reached a new period in which she could express herself as a fertile woman, and she was exploiting this in her favour by marrying a wealthy man.

To know how to weave is therefore regarded as powerful female knowledge which is heightened after the women start menstruating. Cloth itself is considered to be infused with female knowledge that is out of bounds to men. The intimacy between Maya women and cloth-making have resulted in women's ability to use cloth and threads in ways which may be perceived as dangerous and subversive. For example, Parker (1996) has argued that embroidery defined femininity, but also the hidden and secret aspects of women, such as sexuality. To regard cloth-making as a potential dangerous activity, and one which is associated with female secrets may alter the perspective of cloth as an easily modifiable material, linked to tradition and submission.

Fertility and seduction

Because weaving is associated with femininity and women's powers, a woman who weaves cloth is regarded as a good lover, since she knows how to manipulate threads and loom parts through moving her body in the right way. During my weaving apprenticeship I was frequently asked if I was learning how to weave so that I could attract a man, because to display weaving skills is a positive and seductive trait in a woman. Ana explained that my weaving skills show that I am a good woman, because I have the patience and can understand the construction of patterns. However, she did not enlighten me that this also means that I am a good lover. Instead I was teased by Ana's neighbour, whose son had apparently proclaimed his love for me, because he had seen me weaving like a Maya woman in Ana's garden.

I was weaving by the tree in Ana's garden, trying to continue a pattern which I had started some days earlier. The boy's mother was visiting Ana this day and she stood in front of me observing my weaving for a while. Then she asked me if I knew how to weave, and I replied "Yes, I know." Visiting women frequently asked this when they saw me weaving. This is their way of checking that I had indeed understood the process of weaving. Then she said with a serious face that her son wants to learn how to weave. I replied politely that perhaps I could teach him weaving. She and Ana started laughing when I said this and I could not understand what was so funny. Finally they told me that I had just told her that I would teach her son the art of lovemaking.

It is generally considered that women should marry before they engage in sexual activities because having sex results in children, and it is regarded socially difficult and quite bad to have children if a woman does not have a husband. The term *novio* generally means that a woman has a boyfriend, but that she does not sleep with him. The term *marido* means that the woman has a permanent man which she sleeps with, but that she is not necessarily married to him. Ana explained that it is better to say that a woman has a *marido* than a *novio* because this keeps men at bay, because the woman is already taken, so to speak. A man trying to make contact with a woman will back off if he thinks that the woman has a *marido*. Interestingly enough, a man cannot use this term about a woman; he can't say he has a *marida*. A man's status being a virgin or not is not questioned as much as a woman's.

For women to have children but not a permanent man is usually viewed as an unfortunate accident.¹¹ If the couple is not attached when the woman becomes

¹¹ The use of Western contraception is not very common in Maya communities. Plants are used as a birth controlling devices, but their use is guarded. The weavers thought it was

pregnant, it is easy for the father not to pay anything for the child. He may decide that there is no proof as such that the child is his, and he may decide to run away to another community, to Mexico, or even to the US if he does not want to take the responsibility of being the father. This had happened to Ana's friend, Elisa who had never married, but had two children with two different men after sleeping with them without using contraception. Elisa did not tell me that her children had two different fathers. Ana told me because she was worried that maybe it is too late for Elisa to find a proper man to settle down with since Elisa had two children with two different men, and she would not be able to find a Guatemalan man who would marry her. Elisa herself loves her daughters and did not seem bothered that they had different fathers, but she is keen on finding a man, preferably a foreign, rich man, so that she can stay at home, to cook and clean for him.

Fragile cloth

During weaving, novices learn that they should not make any mistakes in the weave because if they do, this results in back-weaving. This is the reversal of the weaving process, and un-weaves the warp and weft threads until the right sequence has been reached and the fault can be mended. The process of seeing otherwise perfectly woven cloth unravelled because of a fault makes the weaver even more careful in the future, because the unravelling of recently woven cloth is a painful process. She knows that she has to weave the unravelled threads back into their proper position, and restore the cloth. This is likened to the shedding of the weaver's own skin, because through the un-weaving of the warp and weft threads her skills are exposed and torn apart until she has learnt the process.

The destruction of cloth and the obstruction of weaving are tied to Maya women's notions of personhood.¹² Being a weaver, a woman is tied to the creation and renewal of cloth, and by extension to the maintenance of cultural knowledge. When cloth is destroyed, or no longer produced, the weaver feels as if a part of her is missing, and in many ways this will affect her community as a

strange that condoms were popular in Europe because the men in Guatemala would not wear them. The women don't like the sound of the pill, it is deemed as something artificial and weird and considered not to be good for the body. After the desired number of children are born most of the women have their fallopian tubes cut because contraception is women's responsibility.

¹² Renne (1995) has explained how the fragility of cloth and its capability for renewal subsists in personhood.

whole. Not being able to weave interrupts the flow of information which weavers are subjected to in the act of weaving. When cloth is no longer woven, Maya women can't share the knowledge which is necessary to establish themselves in the community.

The identity of Maya women as weavers is obstructed after giving birth because the body needs to rest for a couple of months after labour, because of the tension the loom puts on the sore uterus and stomach muscles. Weavers explained that the stomach has to rest for at least six weeks up to six months after giving birth. Resting is necessary even if the woman has given birth naturally, or if she has a caesarean.¹³ Juana described her three births as very painful. She ended up having three caesareans because she could not stand the pain of labour. Juana said it was very boring afterwards because she could not weave for three months after the birth since she had to wait for the scar to heal and the pain to stop. Most of the weavers said that they felt uncomfortable for a long time when starting to weave again after they had given birth.

Even if the women waited throughout the recovery period, they became tired more quickly than before. Weavers also describe the recovery time as if they were devoid of their identity, and they did not like the fact that they are not able to weave during this time. The recovery period after giving birth is also described as boring, and the women explained that they missed their looms, and could not wait until they could start weaving again. Even the shortest recovery of six weeks was regarded as boring despite the fact that women had a new baby to take care of.

The destruction of cloth and loss of weaving time affects women's identities but Isabel explained that even if having children obstructed weaving temporarily, it is worse when women have their tubes cut as a contraceptive measure. This means that women lose their inspiration to weave because this affects women's ability to reproduce children, which is connected to the weaving of cloth.

...si, es triste cuando nosotros no podemos tejer cuando tenemos un bebe, pero tambien,...no gustamos tejer cuando no podemos hacer niñas mas,... mujeres no quieren tejer mas porque no hay posibilidades para hacer niñas mas...

¹³ I had moments of self reflexion because four months before I started my fieldwork I had undergone surgery which left me with a caesarean scar and no feeling at the lower part of my stomach where the muscles had been cut off. When I told the weavers that I could not weave for long some days because it made my back hurt they would sympathise with me and I with them since a caesarean is not a very pleasant experience.

The connection between women's bodies and weaving cloth is linked to responsibilities of controlling reproduction, but to control reproduction is also to control the weaving of cloth, which affects women both bodily and psychologically.¹⁴ Rosa, who never had any children remarked that this is probably the reason for her having so much time to devote to weaving cloth because she is never distracted by kids. She can spend as much time as she wants searching for the right kind of threads for her weaving. For Rosa, to be obstructed in weaving would be considered a real blow to her self-esteem.

Loss and love

Personal disasters can also affect the weaving of cloth, because women can lose interest in weaving, and they may not be able to weave cloth anymore. The reason for unhappiness is almost always due to the way women's husbands and other male relatives behave towards the women. Worrying about men's behaviour can cause women not to be able to concentrate on weaving anymore, and cloth may become tainted with what Ana describes as "men's horrible behaviour of unfaithfulness and drunkenness." The weavers that are not happy with men have often undergone bad experiences with them, and this has left the women scarred and distrustful of men in general. Because men have treated them badly, these women are no longer interested in developing relationships with men. Ana had a bad relationship with her former husband and she explained that she could not weave anything, neither good nor bad cloth, because of the way her former husband had behaved: "...no puse tejer mas cuando el me trata mal, no puse tejer bueno or mal, no puse tejer nada..."

During their marriage, Ana's husband had been a "bad man." He drank too much alcohol most of the time, and he had frequently lied to Ana about everything. In

¹⁴ Heckler (2004) shows how manioc processing is symbolically and socially important with the Piara in South America. Women's knowledge of manioc cultivation is linked to maternal abilities, because of a person's ability to control the forces of production. Gardens are seen to be an aspect of a woman's basic identity and a way to define her role in society and women are seen as master cultivators whose gardens are personal achievements. Through the cultivation of different varieties, Piara women demonstrate mastery that reflects not only their agricultural expertise but their controlled productive abilities in many aspects of cultural life. Delaney (1991) has written on women's role in Turkey and highlights that procreation is the key to understanding the values and organisation of the community.

the end Ana threw him out of their house because she could not be bothered with his erratic and selfish behaviour anymore. After this, he often tried to contact Ana, but she did not want to speak to him anymore, or have anything to do with him. He complained to her that he was disappointed that she did not speak to him when they met each other on the street. Ana told him that she could not be bothered to speak to him anymore since they were not a couple anymore, even if they had a son together their connection was literally cut off, like cloth which is cut off the loom and sold off. One day during my fieldwork he had come to see her but had left before I arrived. Ana was quite upset and angry over this when I met her this particular day. It made her angry that he could walk into her house and pretend they were friends. Ana could not weave at all that day after he had been visiting her because she was so angry and had lost her patience.

Being single is a choice for some women like Ana, who is not interested in men anymore after the bad experience with her husband, and these days she considered herself too old to be bothered to have a man in her life.¹⁵ Other women had not found the man of their dreams yet, because as Rosa said, "it is difficult to find a nice man in Guatemala." Rosa has never had a *novio* and has never been married, and she explained that she had never met a good man whom she could ever consider settling down with. Rosa admitted that it is difficult for her to find a nice man because she is rather eccentric and very independent. Rosa does not care too much about her single status and she thinks that it is perhaps too late for her to settle down anyway, so she has decided she might as well just keep on living close to her family. Also, being single left her with more time to weave and to travel to markets trying to sell cloth, which is what she enjoys most.

The second worst thing that can happen to a married Maya woman is infidelity; the first is to lose a child. Because sex does not usually take place until after women are married, the relationship between women and men is regarded as sacred after the marriage. Therefore it is very tragic if a woman's husband goes off with another woman after they have been married. It is even worse if the other woman gets pregnant by the husband. Isabel told me how one of her married friends had hired a maid to help out with the home. The friend had not noticed that the maid and her husband had got closer and closer to each other over a short period of time. Suddenly the maid was pregnant by the husband. Isabel explained that this had been a catastrophe for the friend who had been

¹⁵ Ana had met another man on her trip US ten years ago. The man had fallen in love with Ana but because Ana did not want to move to the US she never replied to his letters. She felt sad about this but she said it was impossible for her to leave Guatemala, which was her land even if she had to live the rest of her life by herself.

devastated at what had happened. The fear of infidelity makes Maya women guard their marriages from other women, and there is a lot of mistrust between women, and, as I learnt when I was weaving with Juana, even between sisters. One day when I arrived for my weaving lessons, one of the assistants, Tula, was in a very bad mood. She did not reply to my greeting and went back into the front room when she saw me. This was strange because she was always in such a happy mood. I heard her crying in the front room and I did not know what to say or do.

When Juana arrived, Tula took her into the front room. I did not know what had happened until a few hours later when I was weaving and Juana told me that Tula's fiancée had ran off the previous night with her sister. Tula was very upset because of this and she did not know what to do. Tula's boyfriend had caused a disgrace for the whole family because he had been drunk when he came to see her last night at the family house and had then started flirting with Tula's sister and saying obscene things, such as "I like your body." Tula's sister liked the sound of this and had disappeared soon after with Tula's fiancée and neither of them had returned in the morning.

Tula was devastated at this and she did not know what to do. The next day Tula came to work, looking happier but displaying clawmarks on her arms and hands. Tula had told her sister off for running away with her fiancée, telling her that she was younger than Tula and should have known that it was very bad to run off with the fiancée because Tula was the older sister and should be respected. Then Tula had told her fiancée it was over and that he should not dare to set foot in their house again. Juana and Eva praised Tula for this and said well done. This was however a sad incident for all involved because when I got to know Tula, she often talked about her fiancée and how much she liked him, hoping that they would get married soon, but now it was over.

The weavers explained that women can also be unfaithful in their marriages because they are unhappy. Unhappily married women's infidelities are not considered as bad as having their own man falling in love with another woman. One of Lucia's friends had left her husband because he had not paid enough attention to her or the cloth she was weaving. She had been very unhappy for a long time until she had confessed her unhappiness to another male friend. The male friend had expressed his love for her and they had run off together. Now they are happy and the woman is continuing to weave cloth which her new partner appreciates.

Not all men are bad though. Lucia, Isabel and Juana were happy in their marriages. Their respective husbands work hard for the well-being of the family, and this complemented the women's work of weaving cloth and raising their children. Lucia in particular often praises her husband for being so kind and understanding. "I love my husband very much because he is different from the other men in Guatemala. He understands that I need time and space to be by myself sometimes." Her husband let her visit a nearby market to look at cloth because she needed some inspiration for her weavings. The trip would take the whole day and Lucia's husband had agreed to take care of all five children, including a two-month old baby. Lucia was concerned about leaving the baby for a day but her husband insisted that she should go to the market because it would be good for her to have a day by herself. Lucia valued this act very much.

Foreign connections

Because Guatemala is a very popular destination for foreigners, the Maya I met liked to work with foreigners, as language teachers, or renting them rooms, selling them cloth and other produce such as cacao and coffee beans. Foreigners pay better than any Guatemalan ladino and foreigners do not have as many prejudices about the Maya as the ladinos do. Apart from being conceived of as a walking dollar sign, the allure of foreigners to the Maya is also sexual, as explained by Ana and Juana. Ana explained that Maya women are interested in foreign men because they know how to "make sex" in ways different from Maya men. Explaining this, Ana demonstrated with her hands the one and only sexual position a Maya man knew, that of the missionary position, which was signified by pressing her palms together.¹⁶ Then Ana proceeded to show the different positions foreign men reputedly knew by putting her hands together in various ways, these representing different positions. Ana had heard these vital facts from her female Maya friends who were married to foreign men and she said that the women were apparently very happy. Foreign men that learn to weave on a backstrap loom are also considered clever and attractive and Maya weavers praise them as very good men. This is in total contrast to their thoughts about Maya men weaving with the backstrap loom, which is considered humorous and not socially accepted. After all, the Maya men have their foot looms to weave with.

¹⁶ One of Ana's foreign friends had once told Ana that it was a shame that Maya men only knew one position of lovemaking because the Maya men are so handsome and it is easy to be infatuated by them. Ana explained that foreign women are popular to Maya men because they are exotic. Ana's male friends often told her that they would like to practise how to "make babies" with foreign women, without this resulting in children.

While working with foreigners, the weavers had made many friends and they had enjoyed their company. But when the work had finished, the foreigners had gone home, and in too many cases they had never been in touch with the weavers again. Ana was particularly concerned about her friendship with a Canadian woman whom she had lost touch with. While I was weaving the *bandera* pattern, Ana started telling me about how she had enjoyed having friendships with foreign women. Then she said she felt sad that the women did not keep in touch or come to see her anymore. She told me of the close friendship she had with a Canadian woman who fell in love with a Maya man from Ana's community. Ana had set them up and they fell in love, got married and moved to Canada and opened a shop selling Maya cloth.

But after this, when the woman came to Guatemala, she rarely visited Ana. The woman said that she did not have time to see Ana and the couple visited the man's parents instead. Ana was sad because the woman also stopped buying cloth from her and this had been a source for income for Ana. Also, the husband had been very rude to Ana saying that Ana should stop worrying about the friend as if she was her mother. Ana started crying when she told me this and she said that they had been like sisters and that she could not understand why the woman was behaving so coldly to her now.

Even if friendships with foreigners are valued, Maya women guard their marriages from foreign women. On several occasions the women told me that foreign women are very popular in Guatemala because they look different with their pale skin and blonde hair, and they are desirable because they have more money than Guatemalan and Maya women. Juana told me that there had been problems when foreign women had stayed with traditional Maya families because the Maya men often fell in love with the foreign women and tried to seduce them in many ways and sometimes succeeded which broke up their marriage. Juana suggested that I should not go and stay with a traditional family because it would be very difficult for me as a blonde westerner to stay there without getting harassed.

Fabrications of reputations

All the weavers with whom I worked; apart from Rosa, were referred to me by people I met in Guatemala. They knew of the weavers because they had a good reputation as skilled weavers and as good teachers of weaving in the respective Maya communities. The husbands, brothers and sons of weavers praised their wives' weaving skills, describing them as the best weaver in town. This was true of all the men surrounding the weavers I worked with, apart from Ana's ex-husband. The husbands of Isabel and Juana not only praised their wives' weaving skills but they also praised their skills of being able to teach backstrap loom weaving to other, non-Maya women.

However, a weaver's reputation for being skilled and meticulous is not always favourable. Being too popular as a weaver is a reason why weavers in Guatemala attract envy. Women that teach weaving to foreigners gain even more fame and therefore they may also be subjected to envy from the local community, partly because weavers are economically more successful and partly because they are teaching culture-specific skills to outsiders. The envy that arises from being a famous weaver in a community can result in drastic actions. Both Lucia and Ana were the subject of envy in their respective communities because they were making a reasonable living from interacting with foreigners.

Lucia explained that she had an impostor who walked around in the community saying that she was the famous Lucia who taught weaving to foreigners. Lucia was very angry at the impostor, and when Lucia had confronted her, the impostor explained that it was not fair that Lucia had so many customers. This had led to Lucia not being invited into social events in her community because she is considered too popular. Lucia said there was not much more she could do than to walk around the community herself as much as possible to ensure that people knew who the real Lucia is.

In Ana's case, she had been the subject of much malicious gossip because she had so many foreigners coming in and out of her front door. The people in her community noticed that she was able to add an extension to her house and that she could even buy a radio from the money she made from dealing with foreigners. They had started talking about her in a bad way, and when Ana found out she was both hurt and angry since she is only trying to make a living for herself. Ana knew that there are other women in her community who try and take her weaving students and cloth buyers by preying on them in the streets. Ana avoided certain shops that sold thread and weaving equipment because she did not want to cause any further problems in her neighbourhood.

Crossing the border

During weaving, I was not only enjoying the weavers' company and their gossip about men and love, and laughing at naughty jokes, I was also exposed to the reality of being a Maya woman in Guatemala. Before I started weaving with Maya women I only saw the official, reserved side of women, the one they are expected to show in public. When I passed from the outside world into their homes, the women let their hair down and through participating in weaving I was introduced to their values and life experiences. Learning to weave on the backstrap loom I adapted to being a woman in their circle. In sharing my life experience with them, I was passing on knowledge they could not have access to otherwise.

The single and married women gossip and joke as much as the older women, but it is the older weavers who are more open to discussions about social inequalities between men and women, and the fact that men are more powerful than women in Guatemalan society (Ehlers 1990).¹⁷ Juana, Ana and Rosa explained that on a daily basis, women have to try to ignore the unwanted attention and cat whistles men gave them in the streets since it is considered bad behaviour if a woman challenges men's display of machismo. Machismo is exaggerated when men drink alcohol, because this changes their behaviour into drunken louts who only care about themselves, even more than before, and when they drink they can drink for weeks in a row. Husbands that drink treat the women badly; they forget their birthdays and they can stay out late at night, and maybe even visit prostitutes.

While I was weaving the *rosa* pattern with Ana, she told me about how awful men could be because they would often grope women they don't know on the streets in Guatemala, just because they know they can get away with it. I told Ana that if this happened in Europe, a woman would slap a man. Ana was surprised to hear this and she said that this is not the case in Guatemala, if a woman challenges a man's behaviour, she would most likely be beaten up. Ana got slapped by her male relatives sometimes, particularly if they were drunk and they felt like slapping her, even for no reason whatsoever. Ana explained that there is nothing she can do about this because women in Guatemala cannot stand up to men; this only puts them in a worse situation.

¹⁷ Ehlers (1990) wrote about Guatemalan Maya women in San Pedro Sacatepequez, describing how the women were subordinate to men who were nothing more than women chasers, drinkers and that they would abuse women psychologically and physically just because they could (Ehlers 1990: 2,7,9,134). See also Rosenbaum (1993) on gender inequalities with Maya women in Mexico.

Even if the issue of drinking is discussed as a problem men have, I became aware that drinking is not only a man's problem; there are also Maya women who begin drinking alcohol because this may alleviate their painful domestic situations.¹⁸ Alcohol is generally viewed as bad and a woman should only drink a few drinks, but even if the official view is that men drink more than women, there are women who drink a lot as well. During weaving, the women told me about their friends or relatives who had drinking problems and how this was generally caused by depression. Maya women drank because they were sad and saw no good things in life, and this could be brought on by the loss of a child, loss of a husband, or infidelity.

In my experience, despite the hardship of living in Guatemala, the weavers have strong characters whether they have single, married or separated status. They have gone through lot of difficulties. Most of them have experienced the 30-year civil war (which ended in 1996) in one way or another, with parents, brothers and sisters murdered, tortured or raped. But the women are determined to carry on and make the best of their lives. During weaving the women told me about their life experiences and they said that life is hard in Guatemala, but they have to cope with their situation and fight for the future. The weavers think that the continuing act of weaving with the backstrap loom is a powerful means for women to reassert themselves in Guatemala. This is because weaving skills link the female body to political and economic organisation, and studies have noted how possessing and displaying technical knowledge and skill is translated into female power and status (see Dobres 1999).

However, several younger women reported that they want to become more than what is culturally imposed on them. This is the stereotypical Maya weaver, whose image is used as a magnetic attractor in tourist posters and brochures promoting Guatemala. The young female relatives of the weavers who are no longer interested in carrying on weaving with the backstrap loom said that they want to educate themselves in other professions in order to "make a better life than my mother has." The younger women think that there is no point in learning how to weave on the backstrap loom. Instead they want to educate themselves and create a more secure career than relying on selling cloth.¹⁹ Even if some of the weavers' daughters had learnt how to weave on the backstrap loom, they did not consider this a career for the future because it

¹⁸ Zur (1998) has written on alcoholism and widowhood as experienced by Maya women.

¹⁹ Paradoxically, Maya women whom I met working in other professions continue to weave textiles on the backstrap loom for themselves and for their family, but they would not sell them.

would not be economically secure. Geographically, the closer one moves to Guatemala City, the more the interest in weaving with the backstrap loom wanes, as does the wearing of Maya dress. Some informants blamed this on the excitements of the city and the pull of ladino modernity.

Most of the older weavers are concerned about the future of backstrap loom weaving. They questioned whether this practise would continue into the future, or if it would gradually vanish if the younger generation of women were to lose all interest in this. The older weavers could not understand why the younger generation was not interested in weaving with the backstrap loom anymore. For the older women the mere thought of not knowing how to weave or not to wear Maya clothes was revolting.

Lucia held the opposite view; she told me she had decided not to teach her two daughters how to weave on the backstrap loom. She did not want them to end up as she did when she was a young woman, weaving cloth and trying to sell cloth to foreigners for ridiculously low prices. Lucia had realised there was no point in spending a long time weaving cloth that she had to sell for as little as Q10 to tourists who obviously could afford to pay more. This had resulted in Lucia wanting her daughters to wear Maya clothes and to look like Maya women, but she wanted them to get a proper education so that they could do better than her in life. Despite this, one day when Lucia was inside the house while I was weaving outside on her porch, I made a fault in the weave, the daughters noticed immediately and went inside and told Lucia that I had made a mistake in the weave. The daughters obviously knew how to weave but I was not allowed to know this.

The issues surrounding Maya women's identities are complex. Being a weaver the women are seen as the keepers of cultural knowledge as Nelson (1999) found in her study on the Maya body politic. Nelson (1999:164) reports that it is the women who retain Maya culture through the cloth, the languages, and the roles as mothers responsible for physical and social reproduction. Nelson argues that it is the idea of *mujer maya* that keeps the Maya culture in existence because it is the Maya woman who weaves and wears Maya clothes in contrast to Maya men. Nelson (1999:171):

This process means that traditional clothing, which signifies indigenous identity in general, has become almost isomorphic with the Mayan woman who weaves and wears it far more consistently than men.

Nelson points out that the image of the *mujer maya* also holds affective power for the women because the Maya women are needed as keepers of tradition and guardians of national culture (Nelson 1999:171). In my experience, the weavers

and their daughter feel as if they are trapped in between two identities. One is the “proper” weaving Maya woman who stays at home and the other is the Maya woman who is educated, wears part Maya dress and is a feminist. The weavers often remarked on gender inequalities and how hard it is to be a Maya woman when men treat them badly because the men’s attitude simply will not change. The younger women’s resistance to this stereotyping therefore included not being interested in learning how to weave on the backstrap loom, because they don’t want to get trapped in situations they have seen their mothers in.

On the other side of the spectrum, the weavers who had chosen to live on their own are proud of this, and they say that because there are no decent men around it is better to live alone. But to be a weaver does not automatically have to mean that the woman is submissive. Weavers’ identities are more in a state of flux, and they can use different aspects of themselves to gain what they want. This is similar to what Stephen (1991) suggested for Zapotec women, who use different identities in order to survive in a changing world where their roles are constantly negotiated. This is highly applicable to Maya women, because the weavers feel that they have to weave for themselves, the nation and for the future survival of Maya culture, and still be able to gain personal and economic independence. During weaving, women empower themselves because they know they have the knowledge of weaving, and that this knowledge is open to manipulation only by them.

Conclusion

This chapter discusses the social setting of weaving and how it is conceptualised as an activity for creating and maintaining female identities. Weaving as a historically meaningful activity for women has been attested by Wayland-Barber (1995). Though studies on Maya cloth and weaving are extensive (Randall & Shook 1993), no study has focused in depth on the social setting of weaving and how weaving is situated in Maya women’s lives. Thus, this chapter is a timely discussion of how weaving is conceptualised by Maya women as an important social activity during which female roles are constructed and reinforced.

During my fieldwork it became obvious that the activity of weaving inside the domestic sphere provides an occasion for the sharing of cultural knowledge among Maya women. The knowledge that Maya women exchange is not all related to weaving techniques; instead, important issues relating to the everyday life of being a Maya woman in Guatemala are discussed. The topics that women discuss during weaving are shared only between women and inside the domestic unit and most importantly, in the absence of men. It is the

absence of men during weaving that gives women the opportunity to examine and release thoughts that are bound up in women's daily activities of making tortillas, visiting markets and taking care of the children. Gossiping and joking about love and men help to assert women's place in society. Because Maya women cannot speak officially about these issues, these topics have to be discussed with other women during the all-woman activity of weaving. Thus the social setting of weaving becomes a place of ritualised performance (cf Alexander 2003) during which the exchange of information alleviates problems that women have to undergo in their everyday proceedings.

What also emerged during the weaving sessions is that weaving techniques, the materiality of the loom and the cloth itself function as a catalyst in establishing womanhood. To be able to learn weaving techniques and to handle the loom and threads correctly function as transitory tools in the initiation of girls to womanhood. If the weaving novice is not able to learn and use weaving materials correctly, she is considered not be ready to learn the facts of life, e.g. how to behave like a Maya woman in Guatemala. Weaving teachers consider the ability of a novice to use weaving techniques, implements and patterns as a checklist to confirm that a girl is ready to be taught specific information about being a woman. The exchange of knowledge deepens according to the stage in the weaving process, which means that the further the weaving novice has advanced, the more intimate the discussions will get. This suggests that weaving can be understood as a ritualised occasion which has transitional stages that follow women's initiation to adulthood.

The relationship of the loom and cloth to the female body has been stressed in the previous chapters of this thesis. This chapter has expanded the idea that weaving has a relationship with the female body and impacts the formation of Maya women's identities. The quality of the cloth woven by women is affected by events that are regarded as positive for women, such as the onset of menstruation, the rise of sexual activity, as well as pregnancy and childbirth. Cloth can also be affected by negative events in women's lives such as arguments with the husband and close family, jealousy, unfaithfulness and general unhappiness. Thus cloth can become imbued with a wide variety of emotions which the women go through in their lives. Because cloth is the material that facilitates women's progress through life, cloth can function as a transitory material for women during hard times. Women can refer to a piece of well-woven cloth during difficult times and this can help them to overcome hardship because the cloth can represent a better stage in a weaver's life.

Weaving is regarded as such an important activity in establishing womanhood that a successful weaver may be subjected to envy from other women who are not as skilled in the craft. Women that don't weave may also be regarded as

women that are not as “proper” as weavers are. This indicates that weaving is not only an occasion for cloth making but that to know how to weave properly provides a woman with a desired social status in Maya towns. Thus to be a successful weaver indicates that the weaver has gone through the stages of initiation during the weaving and this results in a status which only weavers can achieve.

The weaving occasions also connect Maya women with other women inside and outside of kin groups in Guatemala. Therefore women are able to create and to maintain cultural knowledge and social structures beyond their community because such knowledge and social information are established through the act of weaving. The role of weaving in the establishment of Maya women’s identities is crucial because it provides a social space during which important issues relating to womanhood are initiated and worked through. It is therefore important to understand that weaving is an important ritualised activity which facilitates the creation of womanhood, and not only an occasion when cloth is made.

Chapter 6

MARKETS, CLOTH AND ECONOMICS: MATERIALITY OF INNOVATION

Transforming cloth

The materiality of Maya cloth is instrumental in making and selling cloth to tourists because the cloth itself is perceived to be connected to the ancestral Maya past, which is portrayed by the Guatemalan tourist board *Inguat* as one of the greatest “lost” civilisations on earth. The selling of Maya cloth thus conjures up images of temples in the jungle, a place where the Maya used to perform rituals and dress in similar garments as they wear today.¹ Therefore Maya cloth is highly desired by tourists and foreigners because the fibres and colours are regarded as containing the “essence” of indigenous Maya culture. Ana:

... extranjeros quieren tela Maya... ellos quieren los colores y dibujos la tela Maya, porque son expresiones de la cultura Maya que tiene muchas años historia porque la tela es la tela de los ancianos Mayas... por eso la tela Maya es muy popular con extranjeros ...

The desire to purchase Maya cloth has resulted in cloth being transformed into a variety of forms which are specifically woven for the tourist market. In

¹ In most cases these images are ignoring the fact that the Maya are still much alive today, and that they have been continually using ancient Maya sites for worshipping Maya and Christian gods and saints, appeasing them with chocolate and chicken blood, wearing clothes which have gone through several transformations through the past 500 years. Castañeda (1996) provides an insightful criticism of Maya cultural fetishism. In comparison, consider Stephen, who explains how Zapotec weavers use ethnicity to maintain legitimacy as craft producers and for consolidating control of export when the market for Zapotec textiles changed from local to international tourist and export markets (Stephen 1993:45-6). Local construction of Zapotec ethnicity has been shaped in opposition to the Indian culture promoted by the state, and also in defensive reaction to outsiders who might potentially appropriate economic control of textile production.

reinventing cloth surfaces, weavers know that they are feeding the tourism market because of foreigners' desire to possess pieces of Maya cloth, and therefore weavers are constantly on the look-out for new ways to transform and innovate because it brings economic security.² How a weaver innovates through cloth depends on the strategies she is employing, which are linked to her personal creativity. A weaver may use her current knowledge of weaving cloth but in different combinations to weave cloth for tourists, or she may develop completely new forms, or she may use a combination of these.³ When Maya cloth is sewn into western designs it shows its greatest transformational potential since this cloth is not constrained by community-bound customs. Whereas the cloth woven by the Maya for themselves is conservative in shape, such as *huipiles*, skirts and belts, the cloth woven for tourists can be made into a variety of forms. Old and unwanted Maya cloth is cut up and stitched together and sometimes sewn together with newly woven cloth to make items for the tourist market. Newly woven cloth is also redesigned into a variety of forms aimed at the tourist market, such as tablecloths, magazine racks, vests, shirts, jackets, skirts, trousers, baby clothes, purses and bags.

The weaver's creativity is somewhat dictated by the way she has chosen to work with cloth. A weaver who works independently will have different ideas and strategies for transforming cloth from the weavers who are attached to co-operatives. Independent weavers may receive commissions from both Maya and western entrepreneurs, whereas those who work for a co-operative are restricted in choice of what they can weave. Creativity is thus linked to the

² Hendrickson (1996) describes the variety of forms Guatemalan Maya cloth can take when exported abroad.

³ Hendrickson (1995: 183-191) outlines four cases of innovation in Maya textiles and she argues that attempts to change the look of Maya cloth are attempts or hopes for transformation of social relations. She suggests that innovation in Maya textiles is created from new combinations of old traits, since elements from the past are often the raw materials from which the new is created. Even if the cloth is innovated, the cloth she discusses are considered *tradicional*, traditional. Hendrickson (1995:184-189) describes how one woman started to create floral patterns around the neck and sleeve edges using a (French) bullion knot, instead of making flowers using the customary satin stitch. When she showed it in public to others it was not copied. This is because it was made on a *blusa* and therefore not as important as if it had been on a *huipil*. In the second case, handspun brown cotton cloth was ordered by a newly ordained priest from a local weaver in the 1980s. Brown cotton is usually only used in women's sacred *huipiles*; this showed the priest's Maya identity and merging of Catholic and Maya at troubled times. The third case is when weavers started incorporating floral motifs into *huipiles*. In the fourth case, old patterns were copied into new *huipiles* and the reappearance of the *xilon* blouse, which grandmothers wore as statements of identity (Hendrickson 1995: 183-189).

economic success of weavers, and working as a single weaver in a household depends on the fame of the weaver and how much she is able to sell to make a living. If a weaver gains a good reputation, customers travel to her from afar to purchase products, and she will have a regular income.⁴ If the weaver cannot rely on her fame alone, she may begin to weave cloth for a co-operative, but she will not be able to use her imagination to the full extent.

Isabel and commissions

Isabel receives regular commissions from the Maya community she lives in, and also from foreigners, because she is very famous for the beautiful cloth she weaves. When I conducted fieldwork in 2001-2002 she was aware of the recession in the tourism industry.⁵ However, Isabel is in the privileged position of having not only foreigners buying cloth from her, but the women from her community also order *huipiles* from her because Isabel is known for her well-made cloth. The cloth Isabel weaves is community-specific, but she has a special talent for combining colours and patterns in a pleasing and innovative way which is attractive to both foreigners and to the Maya inhabitants in her community. Her innovations are minimalist and not shape-changing, but they are intimately tied to her experience as a weaver and how far she is willing to let her imagination go. For example, when weaving community-specific cloth she knows when she can introduce subtle changes in colour and form to please the buyer. She may only change a part of the pattern, or place the patterns in a different sequence in the weave to make it more exciting. When she weaves cloth for foreigners she also uses her community-specific colours and patterns, but again

⁴ Marxist and developmental models predicted that traditional activities would disappear with the increasing penetration of capitalism in Latin America but Nash (1989) suggested that women's continuing work in the subsistence sector negates these assumptions.

⁵ During my second visit to Guatemala in 1999, the textile industry was flowering. Foreigners bought a lot of textiles in every market I visited and it was difficult to bargain for cheap prices. For example, the price of a Nahuala wedding *huipil* could be dropped from Q200 to Q110. In 2002, a Nahuala *huipil* went from Q200 to Q40, this is how desperate the weavers were getting in selling their produce. When I conducted my fieldwork in 2001-2002, the Guatemalan newspapers *Prensa Libre* and *El Siglo* published daily reports on the severe decrease in tourism due to the events of 9/11. The recession in tourism was felt by the weavers because nobody bought their products anymore. The lack of income due to the decline in tourism made the weavers anxious about how they would support themselves and their families. The dramatic drop in the numbers of tourists and the decline in sales was difficult for the weavers to get used to, and they all hoped the situation would change soon.

she will change the colour and shapes slightly so that every cloth does not look the same.

Isabel's fame as a very fast and careful weaver has led to her being employed by foreigners on a regular basis via contacts received from a weaving co-operative in her community. During the time I worked with her, she received a commission to weave 40 scarves in different combinations of grey, black and brown wool, from a man who owns a clothing company in Germany. Isabel was free to design the patterns and colour combinations herself, because the commissioner relied on her taste.⁶ Isabel only agreed to weave scarves for him after they had discussed in length the patterns and designs Isabel had in mind and how they met his ideas. To be free to create the designs is important for Isabel, because she does not want to sit down and weave what someone else has decided. Isabel explained that this is the reason why she is reluctant to work for a weaving co-operative, because she feels that she would not be able to weave her own designs, but that she would be dictated what to weave by the co-operative.⁷

Another reason she cited is that she does not want to work with co-operatives because many of them employ weavers to weave cloth on the foot loom. For Isabel, weaving with the foot-loom is not an option. Even if it is possible to weave cloth faster with a foot-loom for the tourist market, she feels that the transformational capacities of the surface of cloth are not possible to the same extent as when weaving with a backstrap loom. If the surface cannot be manipulated by hand, Isabel feels that she would not be able to use her own ideas to the full extent when weaving with a foot loom, which she can when weaving with the backstrap loom. Isabel also explained that she did not really trust the co-operative because some of her friends had been cheated, with the co-operative not paying enough money to the weavers, having promised them a higher sum to start with.

⁶ While I wove a 5 cm strip on my cloth, Isabel sat next to me and wove three, 150 cm long scarves in three hours. She proudly presented them to me after she had finished them and asked me what I thought of the colour combinations, saying that she had designed them herself.

⁷ Cook's (1993: 65-66) study of Teotitlan de Valle and Mitla, Mexico, showed that marketing and production of foot loom weaving contrasts markedly with backstrap loom weaving. Foot loom cloth is managed by shop-based merchants and intermediaries with large inventories and weavers themselves have a less prominent role in marketing. In contrast, backstrap loom weaving is household based, privately owned or accessed only by the producers themselves.

Isabel also received more commissions from both locals and foreigners asking her for cloth woven with *jaspe*, tie-dye, threads. This had spurred Isabel into taking a course in learning the *jaspe* technique of dyeing threads in a nearby community. Isabel explained that this was a good investment because she was now able to extend her repertoire of cloth. She was excited to be able to use her creativity in weaving with the *jaspe* threads, as they offered her a new way to express her ideas.⁸

... cuando usaba los hilos jaspes tengo otras oportunidades para experimentar con la tela. Es interesante para mi porque yo sabo mucho los hilos, pero cuando yo ensanaba los hilos jaspe yo sabo mas y mas de los hilos y como es posible tejer ...

When Isabel had received her first commission of weaving *jaspe* cloth from a local Maya buyer, Isabel had been successful because the commissioner had liked the cloth very much. This had led to many other commissions in her local community and nearby villages. Learning a new technique has extended both Isabel's range of prospective buyers and her knowledge of weaving cloth.

Ana and replication

Despite the popularity of colourful Maya cloth, there are many cloth collectors who do not like the bright colours of more recent styles of Maya cloth. These foreigners are not interested in purchasing cloth that they think exhibits modern colours and patterns, such as the naturalistic flower motifs which are favoured by weavers in Ana's community. This has created a situation in which weavers replicate old colours and patterns when producing Maya cloth aimed at the foreign market. Weavers know that geometric patterns in faded colours brocaded on natural white cotton ground are popular with foreigners because this is a western reflection of Maya authenticity and regarded as the look of "real" Maya cloth (fig 6.1).⁹ When I met western collectors of Maya cloth, most of them remarked that they did not want to buy cloth with the new bright colours that are woven today (fig 6.2); instead they want to buy cloth with

⁸ Eber and Rosenbaum's work with Maya weavers points out that the most pressing problem facing co-operatives is "their inability to provide weavers with a reliable and stable income, the unfair economic risks weavers shoulder, and the need to give indigenous women greater control over administrative decisions and functions" (1993:171).

⁹ Crouch and Lubben (2003) point out the connection between tourism and visual culture, arguing that tourism provides an insatiable market for indigenous art.

faded colours because they are regarded as “authentic.” Cloth collectors prefer faded old colours because this suggests that the *huipil* is old and therefore somehow connected to the Maya past. In the western eye, the faded colours equal old, and one of the collectors explained that “... old huipiles are so much better than the loud brash colours of today.”

Ana has many years of experience of weaving *huipiles* for the foreign market, and she knows how the cloth should look and feel like for it to be popular with tourists. In her years of dealing with foreigners, she knows that cloth collectors will pay a lot of money to get hold of old style *huipiles*. Ana explained that in order to increase sales specifically targeted at foreign cloth collectors, she and her friends replicate the look of old *huipiles* by using specific materials to construct a surface which feels and looks old. Ana owned old pieces of cloth which she keeps as examples when she wants to weave old style *huipiles*. The old cloths which are used as templates are usually family heirlooms which have been passed down the maternal line as examples for their daughters to practice weaving from.¹⁰ In weaving a *huipil* which looks and feels old, Ana uses paler hues which replicate the faded colours of old *huipiles*. After the cloth is finished, it is washed, beaten and squeezed, because this makes the surface softer and more pliable than the surface of new cloth. When it is presented to the buyer the *huipil* is described as old with reference to the ancestral look of the patterns, and the ‘old’ feel to the surface of the cloth.

Content with the prospect of making money from weaving old style *huipiles*, Ana has reservations about the reweaving of old colours which is kept alive by foreigners collecting Maya cloth. Maya weavers know that western collectors want to buy cloth woven from these colours because they think these colours are more authentic and a remnant of the Maya civilisation. Ana explained that these situations create a lot of frustration for weavers because they want to constantly innovate their cloth by using new bright colours and creating new patterns. But because of economic demands, the weavers continue to meet the

¹⁰ Morris (1991) discusses the phenomenon of Maya weavers in the highlands of Mexico, who copy old *huipil* patterns into new *huipiles*, and then process the surface of the *huipil* so that it looks old, e.g. the *huipiles* are stained deliberately so that they attain an ancient look. This process is done because there is a demand in the tourist market for the old style *huipiles*. Waterbury’s (1989) article on weavers in Oaxaca, Mexico, highlights the same issues. Fischer (2001:118) tells of master weaver Ix Ey, who conducts research at the *Museo IxChel de Traje Indigena* in Guatemala City to record patterns in older textiles that have fallen out of use. She uses these older, more “authentic” designs and colours in her own work. Fischer says: “Such efforts at cultural revitalization in the material arts often converge with marketing strategies, as weavers capitalize on tourists’ desire for authentic souvenirs” (Fischer 2001:119).

demands for authentic cloth, and this stagnates their creativity.¹¹ Weaving a *huipil* takes a long time, sometimes between 3-6 months. The time taken to weave an old style *huipil* for the tourism market could have been used to experiment with colours and patterns in the weaving of a new *huipil*.

Rosa and copying

The strategies Rosa utilises to create new cloth forms include the copying of patterns from other communities and selling these as genuine cloth from the particular community, and the fashioning of her community-specific cloth into new forms specifically aimed at the tourist market. When Rosa wants to copy patterns from other communities, she goes to the two most important markets in the western highlands of Guatemala to observe what kind of cloth is currently made in other Maya communities. Rosa explained that markets are the essential places for weavers to “hang out” as markets exhibit the range of recent cloth styles popular with the Maya, as well as the popularity of cloth aimed at the tourist market; “... mercados son lugares donde tejedoras miran tela popular de otros pueblos Mayas, y la tela popular con extranjeros y turistas ...”

Markets are the main places for Maya women to sell cloth since these provide a gathering place for the Maya, and for foreigners. Upon entering a Maya market, one is stunned when seeing the colourful cloth which hangs in row after row on the market stalls. Cloth can also be folded on the ground, and weavers often place them in a position so that the best patterns face the prospective buyer (fig 6.3). Markets provide the locale for weavers to collect information on what is currently regarded as “hot” cloth in the textile trade.

Once in the market, Rosa chats with weavers from other villages about weaving techniques, while inspecting cloth from their respective stalls. Or in the majority of the cases, she quietly observes cloth and the patterns she wishes to learn how to weave, because markets can be fierce places where weavers guard their

¹¹ Zorn (2004:97-105) has outlined how tourism has impacted on the Andean weavers in Taquile, Peru. The weavers use ancient patterns in weaving what are called calendar belts to meet tourists’ demands for authentic cloth. Taylor (2002:201-203) tells how items of Romanian peasant dress were not collected by ethnographers in the 1980-90s. They were not deemed collectable because they were made from thin cotton and nylon, and not from heavy hemp or linen cloth, which is regarded as authentic by ethnographic collectors.

products from other weavers.¹² During the process of copying, Rosa tries to talk to women who either wear or sell cloth with the patterns she is interested in learning how to weave. If Rosa gets a chance, she tries to feel the surface of the cloth to assess the way the threads are applied. Rosa also tries to figure out why the women have chosen specific colours by listening to the women speaking about the cloth. These ideas are taken back to the house where Rosa starts to think about how she could modify a particular idea into her own weaving repertoire. Rosa then copies selected patterns from other communities into backstrap loomed shawls and *huipiles*, which she sells as genuine cloth from the particular community. Rosa explained that she wants to know how to weave as many different patterns as possible because this means she can sell more cloth to tourists.

... si yo sabo muchos dibujos, es posible para mi vendo mas y mas tela a los extranjeros, por eso es importante saber los dibujos de otros pueblos Mayas tambien...hay oportunidades venden mucho...

Rosa did not think that copying patterns is morally bad, because she said that "many weavers are already doing it." Rosa is concerned with making more money and, by being able to copy patterns, Rosa maintains that she can sell more cloth. Rosa even suggested that I should buy her community-specific cloth, which I could copy myself into cloth and sell afterwards.

Rosa explained that copying cloth patterns does not only provide technically cognitive challenges and economic enhancement for the weavers. When weavers hang out in markets observing or chatting to weavers from other parts of Guatemala, the weavers begin to build material networks which are utilised in exchanging and spreading knowledge. Establishing these networks ensures that patterns are simultaneously both contained and spread in time and space, and during this process they become part of a larger system of knowledge, similar to what Gell (1998) suggested about artworks being part of larger networks of artworks.¹³

¹² Socolow (2000:116) says that the historical records are full of territorial conflicts among market women. In 1589-1639 Indian women in Mexico fought to keep black and mulatto women out of Mexico City.

¹³ The constant dealing and stealing of patterns can spread a long way in Central America. Cloth with distinct patterns from Ana's community is sold in the lowlands of Guatemala as authentic pieces of this region. The cloth exhibited *pepita*, *bandera* and flower patterns, but they were sold as gifts from Peten, with the woven text *Recuerdos de Peten*, gifts from Peten. On another occasion, I visited the Honduran island of Utila, and spotted a couple of Maya weavers from the Highlands. They obviously knew this was another place to make money.

When Rosa is not copying patterns from other communities, she is trying to alter the style of her community-specific cloth into new forms. Rosa explained that after a few years of experimentation, she had found the perfect formulae for a specific type of cloth aimed at the tourist market. The cloth is woven from cotton and is brocaded with rows of the double-headed eagle pattern in silk, and measures ca 40 cm x 1.60 m. To achieve the perfect colour combinations, Rosa experimented by weaving sample cloths for the tourist markets. In this way she was able to figure out which colours are the most popular with foreigners. When Rosa found out which colours were the most popular, she started to use these exclusively in her weavings to increase the chances for selling cloth. The colour combinations of the best selling cloths are white foundation with dark blue and purple eagles, turquoise foundation with yellow eagles, white foundation with turquoise eagles, brown foundation with white eagles or black foundation with yellow, purple, green and blue eagles.

Juana, co-operatives and multiple strategies

The many ways in which cloth is fashioned for the tourist market were revealed when I took weaving lessons with Juana at the weaving co-operative. The co-operative is set up with weavers from different Maya communities in the highlands of Guatemala.¹⁴ The weavers are commissioned to weave cloth in community-specific colours and patterns using the backstrap loom. When the cloth is finished, it is brought to the co-operative headquarters by the weavers on a weekly basis. The cloth is inspected by Juana because she needs to ensure that the cloth meets the required standards of colour, form and fineness of weave. If the cloth is perfectly woven, Juana accepts it and pays the weavers. Thereafter the cloth is sewn into shirts, pillow covers, bags and purses, and most of the products are exported to the US.

Juana, who is one of the directors of the co-operative and an excellent weaver herself, is constantly trying to develop the colours and patterns of the commissioned cloth into more innovative designs in order to get an increase in

¹⁴ Larger co-operatives are usually set up with foreign funds and with the economic logic that cloth made by Maya weavers exported to Europe and the US will make a profit because the weavers do not get paid very much, but the price for the finished product is relatively high. However the people in charge of weaving co-operatives always say that the weavers get a fair price.

sales.¹⁵ For Juana, it is important to try to invent new patterns and cloth forms all the time because she believes that an essential part of being a weaver is the ability to innovate new cloth forms. Juana explained that Maya weavers are interested in developing new styles of cloth surfaces for two reasons. Firstly, Maya weavers may want to copy patterns solely for themselves because they think that a particular pattern is pretty and would look good on their *huipiles*.¹⁶ The second case is when Maya weavers copy patterns from other communities to increase the range of cloth with the possibility of selling this for tourists. In both cases, weavers want to know if they possess the skill to copy patterns from outside their community boundary.

To be able to invent patterns is particularly relevant if one wants to get ahead in the cloth trade and Juana explained that weavers have constantly to reinvent the look of their cloth in order to become successful weavers. To possess a vast range of patterns is beneficial to cloth production because the surface of cloth is constantly reshaped and this helps weavers to get the upper hand in the cloth trade because they are able to create more patterns. This is why skilled and older weavers are admired, because they have a seemingly everlasting supply of patterns, and their ability to innovate and modify patterns is an ongoing process and the result of many years cognitive collection of patterns. Or as Juana explained, weaving is not only about money but it is also about developing skills which enhance the way the weaver transforms the look of cloth.

Juana is personally active in promoting the cloth woven for the co-operative and she travels to annual cloth fairs in Mexico to market Guatemalan Maya cloth. During these fairs, Juana encounters cloth makers from the rest of Latin America and she described these events as full of wonderful cloth, a place where new ideas are meeting and developing, and very beneficial for the cloth trade in Latin

¹⁵ Juana wanted to promote a backstrap weaving school for foreigners because she thought she could make a lot of money this way. Still, she thought this was an insecure income for the future, as there were not many foreign students interested in learning how to weave.

¹⁶ Blum Schevill (1997a:138, 140) describes two cases of copying in Guatemalan communities. In one of these, a woman in Santo Domingo Xenacoj dreamt of weaving large patterns and when she started weaving these, the whole community followed her ideas. In the second case, she noticed that women in Santa Maria de Jesus wore San Antonio Aguas Calientes *huipiles*, this was the result of a woman from San Antonio Aguas Calientes marrying a man from Santa Maria and moving there. The women in Santa Maria liked the woman's *huipil* and started copying the patterns and colours for themselves.

America. During these fairs, her stall receives a lot of attention because Guatemalan Maya cloth is perceived to be unique in the whole of Latin America because of its intricate patterns and bright colours.

Because Juana is keen on promoting her co-operative product, she often tries to tell the weavers attached to the co-operative to experiment more when they are weaving cloth. Juana wants them to use different colours, perhaps changing the community-bound patterns slightly. But when this idea was presented to some of the weavers who had brought their weekly supply of cloth to the headquarters, tension arose. The weavers were not interested in altering their village-specific colours. They said "these are the colours we work with and they will remain this way, because this defines who we are and the village we come from." These particular women are brilliant weavers and their own *huipiles* showed masterful skill in colour and pattern combination and experimentation of designs. They were quite upset at this critique and my feeling is that it was particularly difficult since the critique came from another Maya weaver, who had a higher position in the co-operative and who could in effect control the amount of orders from this community.

To assess her own creativity, Juana is constantly experimenting with new forms. While I was weaving with Juana, she purchased a bead bracelet with a flower pattern which she wanted to replicate in a cloth belt. To achieve this, Juana counted the beads of the bracelet both vertically and horizontally to find out the construction of the pattern. Then the bracelet was flipped over and she looked at the reverse side carefully to see if this held any more clues to its construction. The information that Juana gathered was soon transferred into cloth. She started to transfer the bead count into a weave, using pink, blue and red thread on a black ground with yellow borders. Juana explained that this is called *tejer experimental*, experimental weaving, with the intention of inventing new patterns, and if they turn out nicely, the cloth will be for sale for foreigners and tourists. 'Experimental weaving' for Juana means that she wants to try to transfer a pattern from another medium into cloth. Whenever she finds an exciting pattern she likes, she wants to try to copy this into cloth because it is a challenge for her.

Juana also uses embroidery to embellish cloth. She explained that embroidery has great potential in changing the surface of cloth since it is technically more free-flowing than the brocading technique, and therefore enables the creation of more rounded motifs. Embroidery is a particularly useful technique when weavers transform patterns from pre-Columbian Maya art and interpret these in new ways into modern materials aimed at tourists. Patterns from ancient Maya artefacts such as various animals, gods and goddesses are embroidered onto cloth which can be made into wall hangings, pillow covers and blankets.

Embroidered wall-hanging with Maya glyphs are particularly sought-after pieces in the tourist markets. More recently, interpretations of everyday life are embroidered in bold colours onto cloth (fig 6.4). Similar patterns are embroidered on T-shirts, especially made to sell to tourists. Juana explained that one of the most popular T-shirt motifs in the tourist markets is one which depicts children standing on the earth and advertising freedom and love.

Old cloth, new bags

A more recent innovation by Maya weavers in Guatemala is to cut up old *huipiles* and quilt them into bedspreads, wall hangings, pillow covers and bags. Juana explained that there is a Maya woman in the western highlands of Guatemala who started to sew patchwork quilts from her old *huipiles* at the end of the 1990s (fig 6.5). These quilts became very popular with foreigners, and there was even a case of someone paying up to \$500 for them. Because of their economic prospects, other Maya women started copying this technique and at present, Maya quilts are becoming more popular than ever as export items. In the recent quilts, the patches come from both backstrap and foot loomed cloth which can not be used anymore. The *huipil* and skirt cloth may have been torn and because it cannot be worn anymore, it is cut up and in this way it gets a new life in the quilted material.

Old *huipil* and skirt cloth is also sewn into Maya bags, known as the *bolsa Maya*, and it is one of the more successful items in the tourist cloth repertoire (fig 6.6). Juana explained that bags are especially popular with tourists as they are portable and made from genuine old Maya cloth. The shoulder bag is commonly only worn by Maya men, since women use a shawl to carry items in. The Maya men's bag is usually crocheted and made in beige, white, black or red, and it is not as decorative as the bag which is made for the tourist market. Each Maya community has made its own version of the *bolsa Maya*, which is available for purchase in one of the larger markets in the highlands, or in the craft markets in Antigua or Guatemala City.

Tourists who can't afford to buy nice pieces of Maya cloth can find shops where heaps of Maya cloth are sold off at discounted prices (fig 6.7). Complete *huipiles*, bags of off-cuts from *huipiles*, and shawls woven from experimental colours, or *huipiles* which have mistakes in them, are not desired by the Maya, so they are sold off to tourists.

Selling strategies

Even if the innovation of cloth takes on different material forms, the selling of cloth to tourists is managed by similar strategies.¹⁷ In the selling of Maya cloth, weavers use their personal experiences and their connection with the materiality of cloth to form a “package” which is attractive to the buyer. Most Maya cloth is sold in craft markets aimed at tourists, and they will often incorporate a knowledgeable seller dressed in Maya clothing to promote the items. References to the glorious Maya past are used as efficient marketing tools when cloth is being sold to foreigners.¹⁸ Through referring to their Maya ancestors, the weavers are momentarily re-creating the Maya past which is connected to the cloth, and represents what ultimately every foreigner visiting Guatemala wants, which is to possess a piece of authentic Maya culture (fig 6.8). Referral to the ancestors is attractive to western buyers because this is taken as evidence of cultural continuity in the techniques and traditions, most often forgetting that new materials have been appropriated by weavers for 500 years.

It is usual for weavers to approach foreigners and explain that the cloth they are trying to sell is woven with the same techniques that their mothers and grandmothers used. Because weaving skills are taught through the maternal line extending from the past to the present, this connection is exploited by weavers when they talk about their cloth. Thus, referring to the ancestors in the present secures a future for Maya weavers. To employ ancestors as marketing devices suggests that the ancestors have a continuing and essential role in providing sustenance for their families in the present.¹⁹ This explanation is applied to confirm the attachment to the Maya past. When Rosa tried to sell me a *huipil* woven by her mother, accompanied with loom sticks made by her father, she described how important these pieces are because they are made by her

¹⁷ Studies of women in the marketplace have switched from focusing on political economy to examine how personal agency is a strategy for selling wares (Seligmann 2001). Little Jr (2003) has written on the performative process of selling products in markets by Maya women.

¹⁸ Stephen (1993:27) remarks that the international market for crafts is built on an elite consumer ideology contrasting manufactured, mass-produced, internationalized modern objects with hand-produced, authentic local crafts. While Cook (1993:60) suggests that craft commodities are consumed “...because they are cheap and useful in a utilitarian sense, because of their symbolic representational or esthetic status (which may inflate their value in price terms and put them into the luxury category), or due to some combination of these.”

¹⁹ McAnany (1995) provides a discussion on sustenance and ancestors with the Maya.

ancestors.²⁰ Rosa described the beautifully woven *huipil*, which is patterned with a special hen and chick pattern in silk thread across the chest and shoulder parts, as “this is a very important *huipil* because the pattern was made by my mother, who was a very good weaver.” The loom sticks Rosa presented me with were made by her father who had died a year ago.²¹ He had used a special type of wood which Rosa referred to as *palo morada* which does not fade, dry or crack, unlike other types of wood used for loom sticks which may become dysfunctional after a few years. Rosa waved the loom sticks at me, describing her father as having been such a nice man and saying that he had cared for her a lot, and that she had been his favourite, and that by selling these he was still around for her.

The materiality of cloth is cleverly referred to by weavers in the marketing of Maya cloth. Upon presenting cloth to a prospective buyer, a weaver refers to the cloth seductively by touching the surface with her hands to emphasise the softness of the materials, and by pulling the threads with her fingers she shows how tight the weave is.²² The repetitive touching and stroking of the surface of the cloth is done to assert that the threads are proper and that the weave is tight, and that the patterns are representative of the Maya community the weaver comes from. By employing the allure of the senses, through tactile demonstrations, this process is employed to seduce the buyer to purchase (fig 6.9).

²⁰ Rosa wanted me to buy this so that she could have enough money for preparing the Easter dinner for her family. I hesitated, but knowing that I might not be able to find a similar *huipil* anywhere else I decided to buy it and also bought the loom sticks. She was a very effective sales person.

²¹ Rosa owned many sets of antique loom sticks which she sold to foreigners because they pay very high prices for them, because they want old and authentic loom sticks.

²² While I was weaving with Ana, one of her friends from a neighbouring community came over to see her, with the intention of selling Ana a skirt cloth. Ana was determined not to purchase cloth from her friend, because she did not have much money at the moment as the cloth trade was down. After chatting away for a couple of minutes, Ana’s friend spread out her “carrying” cloth on the ground and on it she started to place bundles of rolled-up skirt cloth in neat rows. While she was doing this, she chatted to Ana about the recent developments in her life and how hard it has been for her to make a living. Ana looked slightly bothered when her friend unpacked yet another bundle of cloth, but she did like one of the mauve skirt cloths, and her friend unrolled it to show the full effect of the cloth. Ana said “...no, I am not sure I want this cloth, perhaps later, another day...” After an hour or so of negotiation, the friend began to pack her cloth bundles and said that she had to leave to see another friend. So Ana finally decided that the cloth was too nice to miss and she purchased it.

I have had countless experiences in markets and in weavers' homes when cloth was draped over me. Then the weavers asked me to touch the cloth to feel how soft it was, and asked me to examine the structure of warp and weft to understand the importance of the tightness of the weave. The women often pushed the cloth towards me, saying "it wants you, it is only for you." When Rosa showed me her cloth she asked me to run my hand over the brocade thread, which she explained was pure silk, *pura seda*, so that I could feel the softness of the thread. The soft silk thread used in her community *huipiles* is brocaded into wonderful patterns across the chest and the shoulders, and the silk threads are lovely to touch. The use of women's sensibilities towards cloth, and the employment of sensorial stimulation when selling cloth, makes the cloth even more attractive, the fondling and repeated stroking of the cloth expresses its apparent desire to be sold.

During the process of selling cloth, all of the weavers I met in Guatemala referred to IxChel - the rainbow, moon and weaving goddess - to claim the mythical and magical beginning of Maya weaving tradition. References to myths when marketing cloth is very handy; the weavers know that this sells. Because the creation of weaving is connected to IxChel, her image has been used successfully in advertising Maya cloth throughout Guatemala (fig 6.10). Her connection to *ixcaco*, natural brown cotton, is also referred to repeatedly when selling cloth, and natural brown cotton, *ixcaco*, is the ideal material for weavers to use when weaving cloth for the tourist market because of its ancestral value.²³ Brown cotton has recently begun to be woven into textiles sold for the tourist market (figs 6.11-13).

²³ One spun and wound thread ball of *ixcaco* cost about Q90 (£9) in a tourist shop in Antigua. When I told weavers about the prices of *ixcaco* they said that it should not cost more than Q40 (£4) for one ball, and remarked that tourist shops always sold *ixcaco* for higher prices because they were located in tourist areas.²³ Both Ana and Juana offered to find me brown cotton for lower prices than Q90 through special contacts they had with women in other villages. Hand-spinning of brown and white wild cotton is confined to ceremonial cloth in most communities but in Santiago Atitlan women pose for tourist photographs while spinning wild cotton to get cash even if they no longer use the cotton for weaving (Berlo 1991:454).

Cloth networks: the Panajachel trousers

The establishment of networks is crucial when selling cloth, and the changing surface of Maya cloth enforces more and more connections, both within and outside Guatemala. It is the cloth itself which fabricates these connections when it is bought by foreigners who travel to Guatemala and onwards throughout Central America. Weavers rely on tourist networks to ensure income as cloth items travel within and outside Guatemala because when cloth items are viewed by other tourists they may want to purchase these items and will therefore travel to the place where they are for sale.

One cloth item which increased in popularity during my fieldwork was the red and white striped cotton trousers, familiarly known as *pantalones Panajachel*, the Panajachel trousers. These trousers were sold in Panajachel, which is the ultimate traveller community, perfectly situated at the crossroads by Lake Atitlan. During my fieldwork, travellers wore these trousers all over Guatemala. Being seen in them assigned the wearer a status of having visited Lake Atitlan, which is one of the most important places on a Central American traveller's itinerary since it is famed for its "hippie vibe."

Isabel, who lived close to Panajachel explained that these trousers are an extremely good marketing tool because they were dispersed across Guatemala; tourists who met each other saw the trousers, and then travelled to Panajachel to buy them. Isabel:

... es bueno cuando extranjeros compran tela Maya, porque ellos viajen a diferentes partes de Guatemala, Centro America y el resto del mundo ... es posible por muchas personas visten nuestro tela y los quieren ...los pantalones Panajachel, gana mucho dinero a nosotros, porque extranjeros vestieron, otros extranejors los miran y tambien quieren ...

The same red and white striped cloth is also sewn into skirts, but the skirts did not gain the same level of popularity as the trousers. Trousers made from similar red and white cloth are usually only worn by Maya men in villages around Lake Atitlan. However, the Panajachel trousers aimed at tourists were most popular with western women who liked the colour and cut of the trousers. The trousers have a low-cut waistline, which exposes the belly button; they are tight around the thighs and slightly flared, and they possess the ultimate traveller look. Making the trousers for tourists has enabled the cloth to bridge gender boundaries, as they are not tied to the gender specificity of Maya clothes.

Dolls, cloth and baby wraps

More recently, the invention of weaving Maya cloth for dolls has become the latest item for both tourists and cloth collectors. Miniature versions of community-bound Maya clothes are sold separately, or with an accompanying Maya looking doll, which displays brownish skin and black shiny hair. Both the *huipil* and the skirt cloth replicate the specific colours and patterns of the particular community so that the cloth is marketed as “genuine,” despite its doll-size. The doll can also be sold with its own backstrap loom, which makes it a perfect item that replicates the image of the Maya woman. The portability of the doll-size cloth is another key to its success in the tourism markets, since the cloth is portable and relatively inexpensive, but at the same time an item which is considered to possess the essence of the Maya.

Another highly successful Maya cloth item which entered the US export market in the 1980s is the shawl women use to carry their babies in. Maya women, like many other indigenous women, carry their babies and children in a cloth which is strapped across the shoulders, so that the baby lies in a pouch on the mother’s back or on her hip. This pacifies the baby, as it is kept close to its mother. This also leaves women free to work with their hands, which is crucial for weavers as they need both hands to manipulate the loom. To sell Maya cloth as baby wraps was first developed for the US market and has since entered the European and Australian markets.²⁴ For western women, to wear a baby wrap is to adhere to old and more “natural” customs which are beneficial for both mother and child, as the cloth is a protective and secure material that forges the connection between them.

Innovating cloth and selves

Maya women think about weaving as a process of continuous renewal in which both the act of weaving and the cloth itself maintains social, economic and material networks in Guatemala and beyond.²⁵ To employ changes in cloth is

²⁴ See for example www.mayawrap.com for information on the benefits of using babywraps.

²⁵ Stephen (1993:41) showed how the majority of merchants in Teotitlan, Mexico, contract weavers in local households on a piecework basis, often through kinship ties, for a certain number of pieces, designating the designs, colours, and shapes which are to be produced. Relations of production are simultaneously ties of kin, the same relationships which form the basis of reciprocal labour networks used at fiestas.

not regarded by weavers as breaking away from ancestral traditions; instead innovative ideas are understood as effective in securing income. Changes in materiality are considered as forward-thinking because one of the many creation stories of weaving retells how learning to weave initiated material changes in the primordial Maya past.²⁶ Juana explained that in primordial times the ancestral Maya were thought of as savage because they were clothed in animal skins, thus not properly dressed. When learning how to weave, the ancestral Maya learnt how to transform raw material into workable thread and this enabled them to start wearing clothing and to choose what they wanted to wear. Juana:

The ancestral Maya who lived on earth did not have any proper clothes to wear. They did not know how to weave and make cloth so they had to dress in animal skins which did not cover them properly. One day they saw a spider making a web and they were amazed at how the spider could make such a fine net while they had no knowledge of how to make anything like this. The Maya tried to copy the spider's action and tried to make thread from grass and bark but they could not make such fine thread as the spider's web was woven from. Then one day they noticed natural brown cotton buds growing on a bush. When they touched it they noticed it was very soft and it came off in small thin strips, not too dissimilar to spider's web. They took off small strips from the cotton buds and tried to spin it, imitating the way they had seen the spider spin thread for its web. Eventually the ancestral Maya managed to make a crude first thread which they knotted into a small piece of clothing. This was the beginning of all the weaving which is seen today.

Juana explained that weaving is understood as knowledge which transformed the "savage" ancestral Maya clad in animal skins to cultured persons who can manipulate thread into cloth. To continue to weave cloth in new forms is thus considered essential because it means that ancestral knowledge is kept alive in novel ways.

As the materiality of cloth is changed so is the identity of women, because the manipulation of cloth surfaces enables women to become a new kind of person. In Tecpan, Guatemala, Hendrickson suggests that innovations in weaving went along with women's efforts to signal new information about themselves and their status as preservers of *costumbre* (customs) and knowledgeable actors within a highly ladinoized world (Hendrickson 1995:189). The weavers I worked with

²⁶ Ingold's (2000) organic analogy suggests that we should instead think about innovation as something which is humanly guided by the person's existence in a particular environment.

explained that their sense of self is heightened through their ability to innovate cloth because this gives them a sense of personal achievement. Juana:

... me gusta experimentar con la tela porque siento buena cuando yo invento dibujos nuevos, y cuando yo tejer la tela nueva..es buena para mi y para mi familia y tambien para los ancianos ...

Maya women's management of new ideas in weaving cloth is important because women are constantly trying to find new ways to express themselves. Thus, the weaving of new forms of cloth is used by Maya weavers to negotiate change and to construct more powerful identities. This is similar to Hardy's (2003) study of rural Muslim female embroiderers in western India which showed how Mutwa women are re-inventing embroidery and the meanings associated with embroidered cloth according to an evolving sense of Mutwa identity and Islamization. Over the past forty years the shift from pastoralism to wage labour has encouraged the commoditisation of the embroidery traditionally produced by Mutwa women. Embroidery used to be an important component of the dowry, but more recently it is produced almost completely for outside markets and is used as a creative medium by women to negotiate change.

To innovate cloth is for Maya women a way to use indigenous knowledge and transform it through personal creativity. Women are also equally interested in exploiting indigenous knowledge to achieve economic independence,²⁷ and in this way the women are creating niches of personal and economic power through which they can be seen and heard in Guatemalan society.²⁸ Maya

²⁷ Women's marginalized roles as craft producers and the effect women have on the economy of Latin America, and other developing countries, have been neglected because women's roles have been discussed as home economics, which negates the impact women have in economic contributions (Nash 1989). It has been suggested that women as keepers of traditions make them resist the penetration of capitalism and the destruction of traditional economy (Elmendorf 1976, Isabel 1978, Silverblatt 1987). But women's craft production, e.g. weaving, pottery and knitting, should no longer be regarded as crafts bound to home economics; instead it should be realised how they are part of indigenous economy, and of the national and international markets (Littlefield 1979). Complexities of craft production are integrated into the world economic system, and Stephen (1993) argues that the very emergence of handicrafts is linked to industrialisation and creates a market based on the contrast between handmade and mechanically produced commodities. Her fieldwork in Teotitlan, Mexico, reveals how commodities were transformed into handicrafts, and how the economic base of the community changed from merchant to commercial capital (Stephen 1993: 49-50).

²⁸ Zorn shows how Taquielan women are playing a more prominent role in public life because they can earn more from the sale of specific textiles than the men can (2004:157-58). Men have been in control of the tourism resource in general. While women

women are thus simultaneously capable of transforming and keeping cultural knowledge through the innovation of cloth surfaces.

Nevertheless the economic expansion of women has caused conflict within Maya domestic household groups because this leaves the men with fewer responsibilities, and it may also impact the way men think about themselves as the heads, or former heads, of households. In Guatemala, there is a continuing social stigmatisation of female-headed households and this indicates the difficulty of changing embedded forms (Datta & McIlwaine 2000).²⁹ The weavers I worked with had progressed economically with the new repertoire of weaving products, and even if in some families this had caused marital conflicts, the women are determined to continue to weave cloth for the tourism industry because they need the money.³⁰ Ana had a difficult time with her former

have received new cash from textile sales, which has provided women with a new source of power in their homes and community, changing women's status and roles in many ways. As women received money they began to educate themselves, travel and participate in public affairs. Zorn (2004:95) lists the positive effects of commoditisation of Taquileño cloth as increased income, rising monetary value for textiles, and greater personal and community prestige. The negative impacts are: loss of heirloom textiles, decline in quality, increased competition, and decreased time for weaving family and personal textiles.

²⁹ Chant and Craske (2003:193) suggest that social organisation in Latin America will continue to be formed by kin relationships, but in a variety of forms, and that the members of household units will have more flexible positioning with regards to rights and responsibilities. However, they point out that it is less certain if households that depart from traditional normative ideals of structure and internal division of labour will receive the same ideological and institutional legitimacy as others. Chant and Craske (2003: 225) point out the gender aspects of recent shifts in Latin American labour markets, from which two broad interpretations can be drawn. On one hand, there are signs that women's increased access to earnings has had some personally empowering implications at the micro-scale, whether in allowing women to negotiate more decisively their relationship with men, or in affording them greater scope to head their own households. A second line of interpretation viewed from the angle of women and men within the wider economy is more negative. Successive debt crises, structural adjustment, long-term economic liberalisation and increased global competition have been strongly associated with lower incomes and more precarious employment for most people.

³⁰ Brumfiel (2001:58) suggests there is great deal of ambivalence in how women's economic contributions can be translated as status and power, and this depends on the effect gender ideologies have on the division of labour. For example, women are able to integrate domestic and extra-domestic activities for economic reasons, which may not be visibly translated as status and power. Nash suggests (1993:148) that the preference for a domestic mode of production lies in the exploitative relations within the household because men can exercise control over women not only economically but also sexually. She points out that the increasing number of women heads of households, and the rising

husband because he did not like the fact that she earned so much more money than he did. This made Ana resent him, as he often abused her talents instead of being supportive.

... el no gusta cuando yo vende mucho porque el no gana mucho dinero,
y por eso el no gusta mias telas, o las ideas nuevas que yo el muestro ...
el no quizo me gana dinero, mas dinero que el ...

Ana's marriage did not last owing to her growing economic independence; however this did not stop Ana from weaving cloth for tourists as she wanted to gain economic independence. Women's interaction with more and more foreigners through the selling of cloth also transforms social relations. This can bring strains to domestic lives as the introduction of foreigners may have impact on the weaver's domestic life, or vice versa. Abbott Cane (1995) outlines how Maya women in Mexico have responded to opportunities created by tourism and how the patron-client roles changed to one of friendship instead. She shows how women's production of tourist art allows them to step outside their domestic sphere, and in doing so they create new relationships which bring changes to their intimate life. During my fieldwork, Ana reported that foreign weaving novices had upset the domestic lives of families in her nearby community. In one particular case, the weaving novice had eloped with the son of the family and this act left the mother distraught.

The other weavers I worked with had more amicable domestic arrangements which did not falter with the increased income of women or with their newly found relationships with foreigners. Isabel's and Juana's husbands supported them in their cloth entrepreneurship and often commented on their ideas as good because they would bring in more income. Their husbands have a healthier view of their wives' job as weavers, because the men themselves know that the only way to gain economic funds is to work together as a team and not restrict their wives to the domestic sphere. The men are also positive about their women forming relationships with foreigners, as they know that this is economically beneficial for the family.

age for marriage give women more autonomy in the economic sphere, which can be translated into political power. But by doing this, women lose the protection offered by men in the household and community, making them victims of violence, such as the murder of the female director of a women's pottery co-operative in Amatenango del Valle (Nash 1993a, 1993b, 1999:96-8,103,178-184).

Conclusion

This chapter discusses the impact of tourism on Maya cloth and focuses on how innovation, economics and personhood are connected through the changing look of Maya cloth. Hendrickson's (1995) study of cloth in Tecpan, Guatemala, briefly outlined how innovation occurs in Maya cloth and how this influences weavers' personhood. In Hendrickson's (1996) essay on Maya cloth and tourism, she shows how Maya cloth has been transformed into a variety of forms, such as dog collars, in response to the tourism market. My research expands Hendrickson's work and suggests that the cloth aimed at tourist markets reveals the greatest transformational potential of Maya cloth and that the opportunity to change the look of Maya cloth into new designs has empowered Maya women's identities. This is because Maya weavers can manipulate the materiality of cloth for the tourism market into new forms without being constrained by community-bound fashion. This enables weavers to experiment with a variety of colours and patterns, and with the cloth itself to form new and exciting products as well as designs.

The cloth woven for tourists is distinguished as either foot-loomed or backstrap-woven cloth. Foot-loomed cloth is mass-produced and sewn into a variety of shapes such as tablecloths, wall-hangings, pillow covers, skirts, shirts and trousers aimed specifically at tourists. In contrast, backstrap loomed cloth provides more individualised designs because the cloth can be modified more intimately by weavers' during the process of weaving. Both types of cloth are considered to be imbued with the "essence" of Maya culture, and it is this Maya "essence" which makes the cloth so popular with tourists. It is particularly the fibres and colours of backstrap loomed cloth which are perceived as containing the "essence" of Maya culture owing to their connection to the Maya ancestors.

When weavers sell Maya cloth they place emphasis on fibre and colour being ancestral materials that are embedded in Maya traditions. Weavers constantly refer to cotton as the first, original thread and as the thread of the ancestors. The colours of cloth are described to have been passed down by the ancestral weaving goddess Ix Chel. Weavers know that describing the cloth they are trying to sell as connected to the Maya past makes a successful sale because of the romantic impact these descriptions have on tourists. Through referring to their Maya ancestral glory, weavers make an economic contribution to both domestic and global economies. Thus, by changing the look of the cloth, the women have ensured integration into the social and economic circuit of Guatemala and this enables weavers to access more economic and political wealth.

However, the weaving of cloth for the tourist market can also constrain weavers' creativity. Weavers that work for themselves have more freedom in weaving cloth, because even if they are given weaving commissions from buyers, the weavers can improvise and alter designs if they desire to do so, once they have the raw material in front of them. In contrast, a weaver who is attached to a weaving co-operative is subjected to the constraint of weaving commissioned cloth from the directors and she has little say in what the cloth should look like.

Maya weavers do not only weave new forms of cloth because of economic demands, but the weaving of new designs also gives weavers a sense of personal achievement. When weavers go through the process of transforming cloth by either copying existing forms or reinventing new forms, they gain a sense of progress in their career as a skilled weaver. In some cases weavers may begin to weave colours and patterns that they previously only used for tourists into cloth woven for themselves. Doing this, women are changing the look of what has been thought of as "static" Maya cloth with new ideas. Cloth is therefore the material which enables women to express themselves both as weavers and as women when they are creating new cloth forms.

With the changes applied to the design of Maya cloth, weavers have simultaneously adhered to and transformed cultural knowledge pertaining to weaving. The availability of a variety of cloth for the tourism market increases sales and enables women to create economic niches for themselves in order to ensure financial independence. With their rise in economic independence, the social life of women has changed. Because Maya women are becoming more independent, they feel they can move around more freely when they are selling cloth. Thus, the newly designed cloth that brings in more economic wealth enables women to construct a new personhood. The identity of Maya women is changing to incorporate more autonomy as a response to women's desire to achieve more power, both economic and personal. At the same time, women's rise in independence has impacted the domestic structure in Guatemala, and if a woman is married, her economic success is not always favoured by the husband and marital conflicts may arise due to this.

The transformation of Maya cloth into new forms has made cloth even more desirable for tourists and westerners. Shirts, skirts, trousers and bags sown from Maya cloth into western designs are bought and worn by tourists. This enables Maya cloth to travel beyond the weaver's town and the cloth can be seen in places where weavers themselves may not be able to travel. To wear Maya-made cloth can also give tourists a sense of personal achievement in that the possession of Maya cloth is a material sign that they have "been there and done that." Thus Maya cloth has also implications for the personhood of tourists and westerners because to possess a piece of Maya cloth means that the

person is a “hip” or “cool” traveller who has been to the right places in Central America. Thus the materiality of Maya cloth is capable of influencing a person’s very being, whether it is a Maya weaver changing the surface of the cloth or a westerner dressed in Maya-made cloth. Therefore it is the materiality of cloth that forges connections, and enables cloth to be the material which ties people and places together both within and outside Guatemala.



Fig 6.1 Old style *huipil*, favoured by collectors.



Fig 6.2 Modern *huipil* with bright colours and patterns copied from western embroidery books.



Fig 6.3 Market scene, Antigua, Guatemala, 1999 (photo by Kristin).



Fig 6.4 Embroidery and appliqué scenery shows new ways of thinking about cloth, Antigua, Guatemala 2002.



Fig 6.5 Quilt made from huipiles, Antigua, Guatemala 2002.



Fig 6.6 Backstrap woven cloth made into bag with pom-poms, purchased in Antigua, Guatemala, December 1999.



Fig 6.7 Cut-offs from old and unwanted Maya cloth, Antigua, Guatemala 2002.



Fig 6.8 Promoting Maya women and cloth, detail from tourist brochure, Antigua, Guatemala 2001.



Fig 6.9 Sell, sell, sell. Tourist inundated with cloth sellers, Antigua 1999



Fig 6.10 Weaving scene from Codex Madrid, showing goddess IxChel weaving.



Fig 6.11 Stall of brown cotton products, aimed at tourists, Antigua 2002.



Fig 6.12 Natural brown cotton and lavender dyed thread, woven into scarf aimed at tourist market, Antigua, Guatemala 2002.

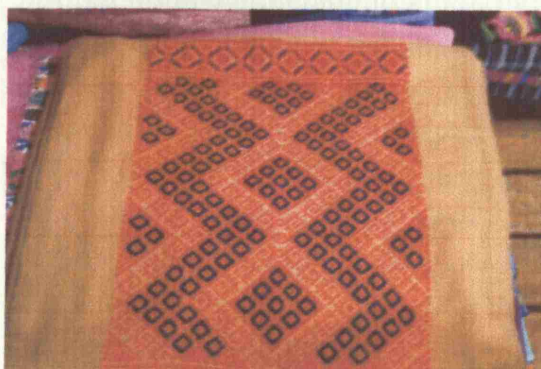


Fig 6.13 Pillow cover made from brown cotton with traditional patterns modified for tourist market, Antigua, Guatemala 2002.

Chapter 7

CONCLUSION

Cloth, colour and personhood

By placing emphasis on the material qualities of cloth, such as colour and fibre, this thesis demonstrates how Guatemalan Maya cloth contributes to the construction of personhood. What emerged from this research is that to understand the efficacy of Maya cloth, and its connection to self, it is necessary to look at the process of cloth production. This makes it possible to move away from textual analyses of cloth (Blum Schevill 1997a:129, Holsbeke 2003:18, Pancake 1991), and instead place emphasis on the material qualities of cloth such as colour and fibre, and how this affects personhood. Thus, this research expands previous studies conducted in the Guatemalan Maya region on weaving, personhood and cloth (Hendrickson 1995, Kellman 1991). In addition, this research contributes to recent research on the materiality of clothing and the relationship between personhood and cloth-making (Colchester 2005, Henare 2005, Kuechler 2005, Norris 2003, 2004, 2005).

That the materiality of cloth is crucial for the construction of personhood was emphasized repeatedly during the fieldwork. Weavers explained that it is necessary to learn how to choose and combine the right kinds of threads and colours in the weave because to learn these strategies enables the weaving of efficacious cloth. It is particularly colour which is the most important factor that enables Maya clothing to shape personhood. This is because the Maya think of colour as being strong/hot or weak/cold according to saturation and the colours of clothing are considered to be linked to the degree of *poder*, power, a person possesses, which is dependent on the person's age, gender and status. When colour is woven into cloth, it is regarded as a social, second skin that accentuates who a person is and where the person comes from (cf Turner 1980). Clothes have to be changed when an individual proceeds through life because when a person matures, the old colours are not considered efficacious for the individual any longer and new cloth in a new colour range has to be

woven for the person. Therefore it is the possibility of changing colours in the weave which is important in the construction of personhood, because the material effect of cloth as a second skin parallels the lifecycle of persons in Maya communities. Colour can thus no longer be seen as a superficial layer on objects (Wigley 1995) but has to be appreciated because of its own potency and not as a symbol for something else. The colour of Maya clothing is so potent that to wear Maya clothing is contested in the contemporary social and political climate of Guatemala, as shown by Nimatuj (2003, 2003a). However, Nimatuj did not pay attention to that it is the material qualities of colour and fibre that defines whether or not Maya cloth is worn or not worn by Maya individuals. Colour and patterns are so pertinent in exhibiting Maya personhood that individuals may choose not to dress in Maya clothing because it attracts too much attention and marks the wearer "Indian." Not wanting to wear Maya clothes suggests that cloth is not a superficial layer which hides a person's inner self and only shows the public exterior, but that cloth actually reveals who the person is (Miller 2005:3).

During the fieldwork it became evident that the decision not to wear Maya clothing is more common among Maya men, because the men felt subjected to ladino prejudice during work and in everyday proceedings. In contrast to men, most of the women I worked with during fieldwork chose to wear Maya clothing because this was regarded as an indicator of being "proper" Maya women. To wear Maya clothing enables the women to move around more freely in Guatemala because the clothes indicate that the women follow Maya customs, e.g., they are not "loose women." However, women who choose to wear Maya clothing are also considered to be subordinate to Maya men and they can also be subjected to ladino prejudices about Indian stereotyping. This quandary results in a situation in which younger women are ambivalent about what to wear because they see that wearing Maya clothes attracts a certain kind of behaviour from Maya men and ladinos. Younger women are also under the influence of western fashion, which they equate with women's independence, despite the fact that the older generation of women considers the wearing of western clothes to exhibit improper behaviour. The younger women feel that to continue wearing Maya clothes will express their subordination to men. Thus, the younger women may choose to wear part Maya dress and part western dress to be able to stay Maya and be modern simultaneously.

Weaving, the body and *el ritmo*

During my apprenticeship it became evident that the weavers consider the loom as part of the body when they are learning how to weave. If a weaver cannot understand the connection between the body and the loom, she will not be able to learn how to weave properly. When learning how to weave, the bodily engagement with the loom parts, together with the colour and structure of threads, accelerate the learning process. Thus, when developing a skill, such as weaving, the materiality of looms and threads helps in learning how to weave (Ingold 2000:416, De Leon 2003, Dobres & Hoffmann 1999:8).

Because a weaver's skill of handling the loom depends on bodily gestures, the women have to attune their bodies to the movement of the loom, or what the women call "finding one's own rhythm," *el ritmo*. The concept of *el ritmo* is important when learning how to weave because it governs all the stages included in the process of cloth making; the winding of threads into balls, the warping of the loom, and the bodily movement necessary for the weaving process itself. An important area of information that emerged from this research is that for Maya weavers seeing and counting during weaving are related activities. To be able to "see" the threads equals the ability to count the threads, and vice versa. To be able to "see" and count the warps in weaving are also governed by *el ritmo* and based on the rhythm of movement that occurs when the warp threads are separated, with fingers, a brocade stick or bodkin, to allow for the insertion of weft to make patterns.

El ritmo is also used as a parameter when weaving symmetrical patterns and it refers to the way colours are combined as rhythmic sequences in the weave. This means that the patterns have to show equal gradation in their size; e.g., they have to grow and shrink in size according to Maya concept of rhythm. To understand *el ritmo* and how it envelopes both the making and the look of the cloth provides a new way of understanding the Maya concept of symmetry and supplements current research on patterns (Washburn & Crowe 1988, 2004). The Maya also uses the term *el ritmo* when referring to bodily movements of rhythm in other areas of activities such as walking, speaking and dancing. This supports research conducted by Gell (1998:74-95) on patterns and movement which proposes a synergy between art forms and modalities of expression, such as Malakula dancing and sand paintings, and that of weaving conducted by Dransart (1995, 2002) and M'Closkey (2002:237-238). Similarly, Ingold suggests that when our bodies perform a task it may be linked with other types of activity through rhythm (Ingold 1993, 2000:207,416).

Because the Maya number system is vigesimal and based on the quantity of fingers and toes of the human body, Maya weavers consider all numbers and measurements as extensions of the body. The relationship of the body with arithmetic has been recorded by studies in ethnomathematics (Ascher 1991, Crump 1990, Mimica 1988, Urton 1997, Zaslavsky 1999). With the Maya, this relationship is apparent during weaving when measurements for the width and length of threads and patterns are measured using fingers, hands and arms. In everyday situations people and things are counted in pairs because everything and everyone should form a pair in order to be complete. This is why weavers count warp threads in pairs when the loom is set up. One thread alone can not be used for the foundation of the weave because it is not complete. Thus, the weavers' concept of mathematics in weaving is to know how to combine numbers and colours in a rhythmic order for the cloth to be considered beautiful.

Womanhood, weaving and performance

My research supports the contention that weaving is an activity which creates and maintains womanhood in Guatemala, as show by Hendrickson (1995) and Kellmann (1991), and in other areas of the Americas by M'Closkey (2002, North America) and Schaefer (2002, Central Mexico). Interesting aspects of how women perceive weaving cloth emerged during my apprenticeship. It was particularly evident how the performative aspect of weaving provides an ongoing arena for reassertion and exploration of Maya womanhood. This is because weaving provides a dynamic setting in which women construct themselves as participants in the community and beyond through the making and handling of cloth. Weaving also provides a gathering point for women to connect with other women inside and outside their kinship groups.

Weaving functions as a ritualised occasion during which important knowledge pertaining to how Maya women should behave in Guatemala is exchanged. During weaving, the materiality of the looms and threads and specific weaving techniques are employed to ease the exchange of knowledge between the weaver and the weaving novice. The materiality of the loom and threads and patterns are paralleled to events which occur in a woman's life. To gain knowledge of threads and patterns is therefore to gain knowledge of how to be a woman. Maya women's self-making parallels the weaving of cloth, and this derives from the intimate relation of cloth and women's bodies. Further, weaving with the backstrap loom and the exchange of women's information inside the domestic unit is an activity which can only take place in the absence of men. Therefore the materiality of the weaving tools and their intimacy with the body creates a gendered experience of weaving which is socio-political.

In addition, during the weaving process there is an underlying concept of secrecy which is materialised in the organisation of colours and patterns in the weave. Even if specific parameters, such as *el ritmo*, is referred to by the weavers as a necessity for weaving efficacious cloth, there are deviations which are only revealed during the making of cloth. For example, asymmetry in the weave is officially regarded as a fault, but inside the weaving circle the informants frequently introduced patterns and colour combinations that were not included in the official view of how patterns should appear. Instead the weavers stated that pattern and colour deviation in the weave are sometimes used as identifying signs of the weaver, and it may only be the weaver who knows that the intentional "fault" exists. To materialise deviations in the cloth suggests that weavers think of weaving knowledge as sacred and secretive and that this knowledge should not be open to interpretation to outsiders.

Innovation, tourism and personhood

That cloth and personhood are connected is particularly evident when cloth is subjected to innovation by weavers. Even if Maya life is based around *costumbre*, or traditional customs of how life should proceed, new ideas are continuously developed in cloth, in contrast to what has been suggested elsewhere, that Maya cloth does not have its own fashion (Holsbeke & Montoya 2003:9). For the Maya themselves this means that the colours and patterns of cloth follow community-bound aesthetics, but that weavers simultaneously apply personalised changes. These changes influence the look of community clothing over time and may result in the colour change of clothing. When the look of cloth is altered, it may result in a complete colour change as recorded in several Maya communities, such as the change in the usage of white foundation weave to red, or from red foundation weave to green, blue and yellow. Or the cloth may be subjected to subtle changes in the design and colour of specific patterns. In both cases the changes are made by the weavers. Thus, Maya cloth is by nature paradoxical because its ancestral connection is renewed in the weaving and wearing of new cloth materials and not in the persistence of repeating old colours and patterns.

It can be said that Maya women's self is under construction when women invent new forms of cloth. This is because the ability for a Maya weaver to invent the look of cloth is connected to the transformational qualities of both cloth and weaver. Weaving is not regarded as a static repetition of pattern and form: instead weaving is regarded as a continuous process during which innovation is encouraged. Therefore, central to the understanding of how clothing function in Maya society, and how creativity and innovation emerge through the body, is to think of the Maya body as being constantly under construction. Recent research

on Maya identity and ethnicity show that the construction of self is flexible and adjustable according to the situation (Hervik 1998, Little Jr 2004). This indicates that the Maya body is in a state of constant flux, and it is this flexibility which promotes innovation and creativity in the weaving of cloth.

What also emerged strongly from my research is the dependency of cloth production on tourism and how this is managed by Maya weavers. Maya cloth is a sought after commodity for tourists and cloth collectors visiting Guatemala. Maya cloth has a connection with the pre-Columbian Maya and it is regarded as a material which contains the "essence" of Maya culture. Thus, Maya cloth is the perfect material to purchase by both tourists and cloth collectors as an item embodying Maya culture. However the cloth bought by tourist and the cloth bought by cloth collectors differ in colour and form. Weavers have changed the look of Maya cloth bought by tourists into new forms such as wall-hangings, bedspreads, pillowcases and western-style clothes. It is particularly the cloth aimed at the tourist market which has revolutionised the look of Maya cloth because the weavers have incorporated "outside" influences that were previously considered forbidden to use. In contrast, the cloth bought by collectors conforms to the old style *huipiles*; e.g. the cloth should be woven from white cotton and have patterns made from red and blue thread. Because the materiality of Maya cloth has been transformed for the tourist market, the older style *huipiles* have become even more collectable because of their lack of bright colours. In the cloth woven for the tourism market the ancestral connection is considered to be imbued in the cloth even if the shape and design of cloth are changed to appeal to foreigners. Thus weaving is not considered as exploitation of Maya culture but it is rather seen as a means of control whereby women gain assertiveness in their community and beyond.

The material changes that have been implemented by weavers into Maya cloth have also influenced weavers' personhood. This has resulted in a conundrum whereby weavers are stuck either to weaving new forms of cloth for the tourist market or relying on making old style cloth for collectors. Most weavers prefer to weave new forms of cloth because this brings intellectual stimulation. Therefore the weavers can feel stuck if they have to continue weaving old style *huipiles* to ensure income from sales. Further, women enjoy weaving new forms of cloth because this has enabled them to become active participants in the marketing and selling of cloth. To invent, copy, and transform weaving knowledge is part of getting ahead in the cloth trade, and the manipulation of old technologies and new materials has created a dynamic field of cultural information. This is because innovation in cloth is simultaneously spurred by market demands and by the weavers' curiosity about being able to weave new patterns. By continuing to weave cloth with the backstrap loom and refusing to

adapt to full-time use of the foot loom, Maya women have found a way to establish themselves in the local and global markets.

The economic changes resulting from cloth sales have had an impact on how Maya women perceive themselves in contemporary Guatemala. My research shows that Maya weavers are managing intellectual property in an efficient way by organising the production and marketing of cloth themselves. This has resulted in changing the image of Maya weavers from stereotypically humble women to fierce businesswomen (e.g. Little Jr 2004). A rise in women's economic independence gained from increased cloth sales has also made an impact on the domestic unit. The weavers I worked with explained that their economic independence has enabled a transition from male-headed domestic arrangements to the women taking more charge of the household. But this change is considered problematic as the women are expected to be subordinate to men in everyday proceedings and some men do not accept women's rise of independence and power. However, Maya women's participation and control of cloth making and selling suggests that Maya women's independence will increase, leading to more balanced domestic arrangements.

This thesis concludes that by using a comparative methodology, new insight has been drawn into Maya women's management of the weaving, wearing and selling of cloth. Maya clothing is continuously connected to Maya personhood and this is particularly visible in the materiality of cloth. The changes implemented in cloth parallel the changes of personhood during the lifecycle because a person is constantly undergoing changes and the materiality of cloth has to parallel these changes. Further, material change in Maya cloth has contributed to its allure and has enabled the incorporation of both new and old style cloth into the local and global market. Thus, Maya identity is constantly changing to reflect the fluctuating situation in Guatemala, and cloth remains a powerful and evocative material in a contested social and political climate.

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